



GOVERNMENT OF BIHAR

**PUBLIC HEALTH ENGINEERING DEPARTMENT
PUBLIC HEALTH DIVISION - PATNA WEST, PATNA**

**BILL OF QUANTITY
FOR
TECHNICAL SANCTION**

**FIXED COST (OPERATOR COST + ENERGY CHARGE)
+**

VARIABLE COST (COMPREHENSIVE OPERATION & MAINTENANCE)

Comprehensive Operation & Maintenance of Five Years of PHED "Ward Level Water Supply Schemes" (WLS / WIMC), PHED PWS "Rural Piped Water Supply Scheme" (PWS) and SVS "Single Village Piped Water Supply Scheme" (SVS) (Non Quality Affected Areas) after completion of O&M period including energy charge and operator wages Under P.H. Division, Patna West, Patna for the Period 2026-2031 in the district of Patna.

No. of Schemes

200 Nos.

ESTIMATED COST -

Rs.468,554,600.00

UNDER MUKHYA MANTRI PEYJAL NISCHAY YOJNA

Financial Year - 2026-27

FINANCIAL BID

Re-Tender NIT No – 05/2026-27/O&M-PHED (R1) /Patna West

GROUP No.:-1

NAME OF WORK-

Part I: Fixed

Operation of i.) Rural Piped Water Supply Scheme (PWS),
ii.) Single Village piped water supply schemes (SVS),
iii.) Ward level Piped Water Supply Schemes in non quality affected wards (WLS_Non Quality) by deploying pump operators and payment of electricity charges and

Part II: Variable

Comprehensive Operation & Maintenance of
i.) Rural Piped Water Supply Scheme (PWS),
ii.) Single Village piped water supply schemes (SVS),
iii.) Ward level Piped Water Supply Schemes in non quality affected wards (WLS_Non Quality) ,
i.e. the cost of chemicals, overhauling of filter media and related appurtenances, cleaning of ESR and campus, maintenance viz. cleaning painting of pump house, boundary wall, repair of leakages in districbution line, repair and provision of new FHTCs, repair and maintenance of pumps and other electromechanical components etc. all complete as per the directions of Engineer-in-charge. in

Blocks:- 12
Total No. of schemes: 200
WLS(Non Quality): 159
WLS(Quality): 0
PWS (Non Quality): 17
SVS (Non Quality): 24

Date of Tender :- 19.06.2026

Estimated Cost :- 4685.546 Lakh

Earnest Money :- 56.86 Lakh

Duration of Maintenance Period 60 Months

Cost of BOQ :- Rs. 10,000.00

SCHEDULE- 'A'

Sl. NO.	PARTICULARS	No. of Scheme	AMOUNT (IN LAKH)
1	2	3	4
1	I. Operation of PWS/SVS/WLS Piped Water Supply Schemes (Non Quality affected area) by deploying pump operators and payment of electricity charges and II. Comprehensive maintenance of PWS/SVS/WLS Piped Water Supply Schemes (Non Quality affected area) i/c the cost of chemicals, overhauling of filter media and related appurtenances, cleaning of ESR and campus, maintenance viz. claning painting of pump house, boundary wall, repair of leakages in districbution line, repair and provision of new FHTCs, repair and maintenance of pumps and other electromechanical components etc. all complete as per the directions of Engineer-in-charge.	PWS:- 17 Nos. SVS:- 24 Nos. WLS :-159 Nos. (Non Quality)	4685.546
Total Amount =			4685.546

Rupees Forty Six Crore Eighty Five Lakh Fifty Four Thousand and Six Hundred Only

SCHEDULE- B----- NIL

SCHEDULE- C----- NIL

1	Estimated cost	In Rs.	468,554,600.00	(A)
2	Cost of Govt. Material	:-	NIL	NIL (B)
3	Name of the Contractor	:-		
4	Address of the Contractor	:-		

FINANCIAL BID**Re-Tender NIT No – 05/2026-27/O&M-PHED (R1) /Patna West****GROUP No.:-1**

5	I/we offer in Figures..... in words..... % (Percentage) High on the rate for the fixed cost (Part I) for operation of the schemes.	IN FIG.	
		IN WORDS	
6	I/we offer in Figures..... in words..... % (Percentage) High / Less on the rate for the variable cost (Part-II) for maintenance of the schemes.	IN FIG.	
		IN WORDS	
7	Average rate quoted by the bidder % (Percentage) {(68.9204% of Fixed Cost) + (31.0796% of Variable Cost)}		0.00
8	Amount as per Average rate quoted by the bidder in Row (7).....(in Rs.)	IN FIG.	468,554,600.00
		IN WORDS	

Note :- 1.) Bidders has to quote rate in Percentage High/Less only.

Note :- 2.) Items/ Quantity of Work will be decided by the department on day to day / priority basis during period of maintenance.

Note :- 3.) The quoted rate for the operation part I (fixed cost) i.e. the payment to the operators and the electricity bills, the quote shall not be negative.

Note :- 4.) The electricity bills shall be paid as per actual.

Note :- 5.) The entry in row 7 shall be considered for decision of financially lowest bid.

Executive Engineer,
P.H.Division, Patna West, Patna

BOQ (Fixed Cost) of WIMC/ WLS						
BOQ WIMC/WLS (Fixed Cost) of 159 Nos. of Ward Level Water Supply Scheme (Non Quality Affected Areas) for the Period 2026-2031 in All Block/Panchayat/Wards Covered under P.H. Division, Patna West, Patna.						
I.	Fixed Cost					
(A)	Cost of Pump Operator					
	1 nos for 365 days	Per Year	159	12.00	#####	₹ 7,632,000.00
	Sub Total (A) =					₹ 7,632,000.00
(B)	Cost of Energy Charges					
	Capacity of Motor Pump Say 3HP = (No*0.746*HP) = KW	KW	159	355.84		
	Average Running	Hrs/Day		8		
	Energy Charges Per Year=Average Running Hr/day*0.746*HP* 365	Per Unit		1153355.09	2.60	₹ 2,998,723.24
	Fixed Charges Per Month (Per Month/ Kw)	Per Month	356.00	12	100.00	₹ 427,200.00
	Duty Charges @6% of Energy Charge					₹ 179,923.39
	Sub Total (B) =					₹ 3,605,846.63
	Total Fixed Cost (I) = (A+B) =					₹ 11,237,846.63
	Add Contractor's Profit 10% of (I)					₹ 1,123,784.66
	Add GST @ 18% of (I)					₹ 2,022,812.39
	Add Labour Cess (Excluding Energy Charges) @ 1% of (I-B)					₹ 76,320.00
	Total Fixed Cost of WIMC/ WLS Scheme (For One Year) =					₹ 14,460,763.69
	Grand Total Fixed Cost of WIMC/ WLS Scheme (For Five Year) =					₹ 72,303,818.43
	Say Rs.					₹ 72,303,800.00
BOQ (Fixed Cost) of PWS						
BOQ PWS (Fixed Cost) of 17 Nos. of Rural Piped Water Supply Scheme (Non Quality Affected Areas) for the Period 2026-2031 in All Block/Panchayat/Wards Covered under P.H. Division, Patna West, Patna.						
I.	Fixed Cost of Scheme					
(A)	Cost of Pump Operator					
	44 Nos for 365 days	Per Year	44	12.00	#####	₹ 2,112,000.00
	Sub Total (A) =					₹ 2,112,000.00
(B)	Cost of Energy Charges					
	Capacity of Motor Pump Say 460 HP = (0.746*460) = 343.16 Kw	KW	460	343.16		
	Average Running	Hrs/Day		12		
	Energy Charges Per Year=Average Running Hr/day*0.746*HP* 365	Per Unit		1668375.29	9.72	₹ 16,216,607.80
	Fixed Charges Per Month (Per Month/ Kw)	Per Month	344.00	12	630.00	₹ 2,600,640.00
	Duty Charges @6% of Energy Charge					₹ 972,996.47
	Sub Total (B) =					₹ 19,790,244.27
	Total Fixed Cost of Scheme (I) = (A+B) =					₹ 21,902,244.27
	Add Contractor's Profit 10% of (I)					₹ 2,190,224.43
	Add GST @ 18% of (I)					₹ 3,942,403.97
	Add Labour Cess (Excluding Energy Charges) @ 1% of (I-B)					₹ 21,120.00
	Total Fixed Cost of PWS Scheme (For One Year) =					₹ 28,055,992.66
	Grand Total Fixed Cost of PWS Scheme (For Five Year) =					₹ 140,279,963.31
	Say Rs.					₹ 140,280,000.00

BOQ (Fixed Cost) of SVS						
BOQ SVS (Fixed Cost) of 24 Nos. of Single Village Piped Water Supply Scheme (Non Quality Affected Areas) for the Period 2026-2031 in All Block/Panchayat/Wards Covered under P.H. Division, Patna West, Patna.						
I.	Fixed Cost of Scheme					
(A)	Cost of Pump Operator					
	34 Nos for 365 days	Per Year	34	12.00	#####	₹ 1,632,000.00
	Sub Total (A) =					₹ 1,632,000.00
(B)	Cost of Energy Charges					
	Capacity of Motor Pump Say 355 HP = (0.746*355) = 264.83 Kw	KW	355	264.83		
	Average Running	Hrs/Day		12		
	Energy Charges Per Year=Average Running Hr/day*0.746*HP* 365	Per Unit		1287550.49	9.72	₹ 12,514,990.80
	Fixed Charges Per Month (Per Month/ Kw)	Per Month	265.00	12	630.00	₹ 2,003,400.00
	Duty Charges @6% of Energy Charge					₹ 750,899.45
	Capacity of Motor Pump Say 10*3HP = 30HP (No*0.746*HP) = KW	KW	10	3	22.38	
	Average Running	Hrs/Day		12		
	Energy Charges Per Year=Average Running Hr/day*0.746*HP* 365	Per Unit		108807.08	2.60	₹ 282,898.42
	Fixed Charges Per Month (Per Month/ Kw)	Per Month	23.00	12	100.00	₹ 27,600.00
	Duty Charges @6% of Energy Charge					₹ 16,973.91
	Sub Total (B) =					₹ 15,596,762.57
	Total Fixed Cost of Scheme (I) = (A+B) =					₹ 17,228,762.57
	Add Contractor's Profit 10% of (I)					₹ 1,722,876.26
	Add GST @ 18% of (I)					₹ 3,101,177.26
	Add Labour Cess (Excluding Energy Charges) @ 1% of (I-B)					₹ 16,320.00
	Total Fixed Cost of SVS Scheme (For One Year) =					₹ 22,069,136.09
	Grand Total Fixed Cost of SVS Scheme (For Five Year) =					₹ 110,345,680.47
	Say Rs.					₹ 110,345,700.00

	BOQ Fixed Cost Summary	Total Amount
1	BOQ WIMC/WLS (Fixed Cost) of 159 Nos.	₹ 72,303,800.00
2	BOQ PWS (Fixed Cost) of 17 Nos.	₹ 140,280,000.00
3	BOQ SVS (Fixed Cost) of 24 Nos.	₹ 110,345,700.00
	Grand Total Fixed Cost of WLS/PWS/SVS Scheme (For Five Year) =	₹ 322,929,500.00

Assistant Engineer
P.H. Sub Division,
Paliganj

Assistant Engineer
P.H. Sub Division,
Danapur

Assistant Engineer
P.H. Sub Division,
Patna West

Executive Engineer
P. H. Division,
Patna West Patna

Bill of Quantity 1 (Variable Cost)					
S.N.	Description	Quantity	Unit	Rate	Total Amount
1A	Construction of 150mm X100mmx 125m deep T/W etc. all complete and as per direction of E/I.(As per sub Estimate no.- 1)	1	Nos.	Rs.294,314.73	Rs.294,314.73
1B	Construction of 150 mmX90m deep drilled T/W etc. all complete and as per direction of E/I.	1	Nos.	Rs.180,147.69	Rs.180,147.69
2	Constructing masonry Chamber 100x100x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for Tube Well, and RCC top slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size) , necessary excavation, foundation concrete 1:2:4(1 cement : 2 fine sand : 4 graded stone aggregate 20 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3coarse sand) 12 mm thick with 5% cico fnished with a floating coat of neat cement, out side plastering with cement mortar 1:4 (1 cement : 4coarse sand) 12 mm thick complete as per standard specifications & direction of E/I. (As per sub Estimate no.- 2)	1	Nos.	Rs.15,314.08	Rs.15,314.08
3A	Supply Installation, commissioning and testing of single phase 3 H.P submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings such as 7.5KVA Stabalizer, cable, panel board etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I. (As per sub Estimate no.- 3a)	1	Nos.	Rs.110,628.00	Rs.110,628.00
3AA	Supply Installation, commissioning and testing of single phase 3 H.P submersible pump set only having discharging capacity 3.35 lps at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning excluding the cost of GI pipes for lowering and cables etc. as per standards specifications and direction of E/I. (As per sub Estimate no.- 3a items)	1	Nos.	Rs.25,000.00	Rs.25,000.00
3B	Supply Installation, commissioning and testing of single phase 2 H.P submersible pump set having discharging capacity 2.25 lps at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings such as 7.5KVA Stabalizer, cable, panel board etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I. (As per sub Estimate no.- 3b)	1	Nos.	Rs.68,220.60	Rs.68,220.60
3BB	Supply Installation, commissioning and testing of single phase 2 H.P submersible pump set having discharging capacity 2.25 lps at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning excluding the cost of GI pipes for lowering and cables etc. as per standards specifications and direction of E/I.(As per sub Estimate no.- 3B items)	1	Nos.	Rs.20,000.00	Rs.20,000.00
3C	Supply Installation, commissioning and testing of three phase 5 H.P submersible pump set including light wiring, power wiring and extension of over head L.T line from nearest point of electric line up to pump room having 50 C/sec. 2900 rpm at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning complete set as per standards specifications and direction of E/I. (As per sub Estimate no.- 3c)	1	Nos.	Rs.140,107.73	Rs.140,107.73
3CC	Supply Installation, commissioning and testing of three phase 5 H.P submersible pump set only having 50 C/sec. 2900 rpm at a total head of 35 meter(approx) of different capacity of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning excluding the cost of GI pipes for lowering and cables etc. as per standards specifications and direction of E/I.	1	Nos.	Rs.40,000.00	Rs.40,000.00
4a	Providing & Fixing BIS approved 3 HP submersible motar starter all complete as per direction of engineer in charge. (As per sub Estimate no.- 4a)	1	Nos.	Rs.5,478.72	Rs.5,478.72
4b	Providing & Fixing BIS approved 2 HP submersible motar starter all complete as per direction of engineer in charge. (As per sub Estimate no.- 4b)	1	Nos.	Rs.4,741.20	Rs.4,741.20

S.N.	Description	Quantity	Unit	Rate	Total Amount
4c	Providing & Fixing BIS approved 5 HP submersible motor starter all complete as per direction of engineer in charge. (As per sub Estimate no.- 4c)	1	Nos.	Rs.6,321.60	Rs.6,321.60
5a	Supply & Installation of 90-220 V range single phase 7.5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked Stabilizer of reputed make. (As per sub Estimate no.- 05)	1	Nos.	Rs.26,340.00	Rs.26,340.00
5b	Supply & Installation of 90-220 V range single phase 5.0 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked Stabilizer of reputed make. (As per sub Estimate no.- 05)	1	Nos.	Rs.21,072.00	Rs.21,072.00
6A	Providing and Laying Distribution network of 90 MM High Density Polyethylene pipe (HDPE pipe) all complete as per direction of E/I. (As per sub Estimate no.- 6A) *	1	per m	794.94	Rs.794.94
6B	Providing and Laying Distribution network of 75 MM High Density Polyethylene pipe (HDPE pipe) all complete as per direction of E/I. (As per sub Estimate no.- 6B) *	1	per m	649.30	Rs.649.30
6C	Providing and Laying Distribution network of 63 MM High Density Polyethylene pipe (HDPE pipe) all complete as per direction of E/I. (As per sub Estimate no.- 6C) *	1	per m	552.30	Rs.552.30
6D	Providing and Laying Distribution network of 50 MM High Density Polyethylene pipe (HDPE pipe) all complete as per direction of E/I. (As per sub Estimate no.- 6D) *	1	per m	439.05	Rs.439.05
6E	Providing and Laying Distribution network of 40 MM High Density Polyethylene pipe (HDPE pipe) all complete as per direction of E/I. (As per sub Estimate no.- 6E) *	1	per m	395.10	Rs.395.10
7a	Cost of replacement of riser / delivery pipe by 50 mm dia G.I.Pipe from T/well to PVC Tank	1	per m	Rs.603.29	Rs.603.29
7b	Cost of replacement of riser / delivery pipe by 65 mm dia G.I.Pipe from PVC Tank to Distribution main	1	per m	Rs.703.49	Rs.703.49
7c	Cost of replacement of riser / delivery pipe by 80 mm dia G.I.Pipe for wash out	1	per m	Rs.862.06	Rs.862.06
7d	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end). 80mm dia Pipe	1	Job	Rs.2,347.00	Rs.2,347.00
7e	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end). 50mm dia Pipe	1	Job	Rs.925.27	Rs.925.27
7f	Supplying all materials labours & fixing 50mm dia. G.I pipe for using as filling station etc. All as per direction of E/I.	1	Job	Rs.3,756.61	Rs.3,756.61
8	Estimate for supply & installation of water storage tank (5000 Ltr. =5000 X 1) as per direction of engineer in charge. (As per sub Estimate no.- 08)	1	Job	Rs.55,840.80	Rs.55,840.80
9	Installation of Electronically Regulated Doser type chlorinator using Sodium Hypo Chlorite (Hypo NaOCl) (As per sub Estimate no.-09)	1	Nos.	Rs.24,775.40	Rs.24,775.40
10	Providing and erecting 8M high staging with ladder of ISA65x65x6 and 16mm dia MS bar as trade @ 400mm c/c and GI enclosure to house electric switch panel & treatment unit (where required) of suitably designed MS section of angle, channel, etc. as per drawing attached. (As per sub Estimate no.-10) *	1	Job	Rs.734,253.84	Rs.734,253.84
11	Estimate for Painting of 8M Steel Staging all complete as per direction of engineer in charge. (As per sub Estimate no.- 11)	1	Job	Rs.21,282.72	Rs.21,282.72
12a	Estimate for Providing GI enclosure to house electric switch panel for steel structure staging all complete. (As per sub Estimate no.- 12) *	1	per m2	Rs.1,581.77	Rs.1,581.77
12 b	Repair/ Replacement of M.S angle / channel / Roof Sheet including riveted/ welded/bolted in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved	1	per Kg	Rs.109.57	Rs.109.57
13a	Estimate for Construction of floor of staging etc. all complete as per direction of engineer in charge. (As per sub Estimate no.- 13) *	1	per m2	Rs.1,625.51	Rs.1,625.51
14	Providing ladder in staging including all accessories etc. all complete. (As per sub Estimate no.- 14)	1	Job	Rs.13,148.93	Rs.13,148.93
15	Providing New house connection for each house hold including supplying all materials, labours, tools and making ferrule connection with 20 mm dia MDPE and 15mm G.I Pipes with all fittings etc all complete. (As per sub Estimate no.- 15)	1	Each	Rs.2,623.46	Rs.2,623.00

S.N.	Description	Quantity	Unit	Rate	Total Amount
15a	Providing New house connection without retrofitting for each house hold including supplying all materials, labours, tools and making ferrule connection with 20 mm dia MDPE and 15mm G.I Pipes with all fittings etc all complete. (As per sub Estimate no.- 15a)	1	Each	Rs.2,197.00	Rs.2,197.00
16	Repairing of House Connection (As per sub Estimate no.- 16)	1	Nos.	Rs.801.79	Rs.801.79
16A	Repairing of House Connection with leakage at ferrule (As per sub Estimate no.- 16A)	1	Nos.	Rs.1,495.06	Rs.1,495.06
16B	Minor repairs to House Connection (As per sub Estimate no.- 16B)	1	Nos.	Rs.191.76	Rs.191.76
17	Replacing of damage Bib cock with New Bib cock (As per sub Estimate no.- 17)	1	Nos.	Rs.115.90	Rs.115.90
18	Repairing of 3 HP/2 HP Pump Motor (As per sub Estimate no.- 18)	1	Nos.	Rs.9,355.97	Rs.9,355.97
18b	Repairing of 5 HP Pump Motor (As per sub Estimate no.- 18b)	1	Nos.	Rs.16,583.66	Rs.16,583.66
19	Repairing of Starter (As per sub Estimate no.- 19)	1	Nos.	Rs.1,580.40	Rs.1,580.40
20	Repairing of Stabilizer (As per sub Estimate no.- 20)	1	Nos.	Rs.3,160.80	Rs.3,160.80
21	Supplying & fitting 2.5 mm ² copper service cable from power point from nearest source up-to pumping station. (As per sub Estimate no.- 21)	1	per m	Rs.136.97	Rs.136.97
22	Cleaning of one 5000 Ltr capacity overhead pvc tank and getting water quality tested from departmental lab. (As per sub Estimate no.- 22)	1	Nos.	Rs.526.80	Rs.526.80
23A	Repairing of Leakages in HDPE Pipe line with PCC cutting & Restoration. (For HDPE Laid at depth 0.5 to 1.0 m)(As per sub Estimate no.- 23)				
	90 mm Dia	1	Nos.	Rs.1,671.01	Rs.1,671.01
	75 mm Dia	1	Nos.	Rs.1,652.04	Rs.1,652.04
	63 mm Dia	1	Nos.	Rs.1,596.20	Rs.1,596.20
	50 mm Dia	1	Nos.	Rs.1,563.54	Rs.1,563.54
	40 mm Dia	1	Nos.	Rs.1,536.15	Rs.1,536.15
23B	Repairing of Leakages in HDPE Pipe line without PCC cutting & Restoration.(For HDPE Laid at depth 0.5 to 1.0 m)(As per sub Estimate no.- 23)				
	90 mm Dia	1	Nos.	Rs.1,262.21	Rs.1,262.21
	75 mm Dia	1	Nos.	Rs.1,243.25	Rs.1,243.25
	63 mm Dia	1	Nos.	Rs.1,187.41	Rs.1,187.41
	50 mm Dia	1	Nos.	Rs.1,154.75	Rs.1,154.75
	40 mm Dia	1	Nos.	Rs.1,127.35	Rs.1,127.35
24A	Repairing of Leakages in HDPE Pipe line with PCC cutting & Restoration. (For HDPE Laid at depth 0.0 to 0.5 m)(As per sub Estimate no.- 24)				
	90 mm Dia	1	Nos.	Rs.1,590.94	Rs.1,590.94
	75 mm Dia	1	Nos.	Rs.1,571.97	Rs.1,571.97
	63 mm Dia	1	Nos.	Rs.1,516.13	Rs.1,516.13
	50 mm Dia	1	Nos.	Rs.1,483.47	Rs.1,483.47
	40 mm Dia	1	Nos.	Rs.1,456.08	Rs.1,456.08
24B	Repairing of Leakages in HDPE Pipe line without PCC cutting & Restoration.(For HDPE Laid at depth 0.0 to 0.5 m)(As per sub Estimate no.- 24)				
	90 mm Dia	1	Nos.	Rs.1,182.14	Rs.1,182.14
	75 mm Dia	1	Nos.	Rs.1,163.17	Rs.1,163.17
	63 mm Dia	1	Nos.	Rs.1,107.33	Rs.1,107.33
	50 mm Dia	1	Nos.	Rs.1,074.67	Rs.1,074.67
	40 mm Dia	1	Nos.	Rs.1,047.28	Rs.1,047.28
25	Supplying and laying of submersible flat cable ISI marked 3 core copper wire of suitable size with proper clamping of approved make. (Rate Chattisgarh SOR 34.20.107)	1	m	Rs.127.49	Rs.127.49
26	Replacing damaged portion of riser and delivery pipe 8 meter staging with CPVC / UPVC pipe and providing gun metal Gate valve. (Sub Estimate No.26)				
	Replacing damaged portion 50 mm dia. CPVC / UPVC Riser pipe	1	m	Rs.833.40	Rs.833.40
	Replacing damaged portion 80 mm dia. CPVC / UPVC Riser pipe	1	m	Rs.1,990.78	Rs.1,990.78
	Replacing CPVC / UPVC Gate Valve 50 mm dia.	1	Nos.	Rs.915.00	Rs.915.00
	Replacing CPVC / UPVC Gate Valve 80 mm dia.	1	Nos.	Rs.2,240.00	Rs.2,240.00
27	Development of Twell. (Sub Estimate No.27)	1	Job	Rs.16,973.50	Rs.16,973.50
28	Repairing and painting of RCC staging (Sub Estimate No.28)	1	Job	Rs.75,437.76	Rs.75,437.76
29	Restoration of road for pipeline work having trench size 300 mm.	1	per meter	Rs.362.26	Rs.362.26
30	Providing and fixing 19mm PVC/Block board with KitKat to affix/hang starter, fuses, IoT devices etc all complete as per the directions of the E/I.	1	Job	Rs.3,000.00	Rs.3,000.00

S.N.	Description	Quantity	Unit	Rate	Total Amount
31	Providing 50 mm GI pipe for lowering the riser pipe of submersible pump all complete as per the directions of the E/I. (Sub Estimate No.30)	1	Job	Rs.1,512.51	Rs.1,512.51
32	Providing and fixing MS clamp consisting of 32mm x 5mm thick two no. rings spaced suitably distance apart around the tank and six nos. L type flats suitably connected with the rings and the other leg suitably connected with the top of the steel structure as per direction of E/I.	1	Job	Rs.3,000.00	Rs.3,000.00
33	Providing and fixing of New PVC 5000 L Tank Cover with all accessories.	1	Job	Rs.300.00	Rs.300.00
34	Providing and fixing M.S Stabiliser Stand near panel Board to keep stabiliser safe.	1	Job	Rs.2,500.00	Rs.2,500.00
35	Renovation (Repairing and painting) of Attendant Cum Pump room & toilet. (As per sub Estimate no.- 31)	1	Job	Rs.31,613.61	Rs.31,613.61
36	Renovation (Repairing and painting) of Existing Boundary wall of Length 29Mtr and height 1.5Mtr. all complete as per direction of E/I. (As per sub Estimate no.- 32)	1	per meter	Rs.1,733.82	Rs.1,733.82
37	Campus development by land filling and brick soiling. (As per sub Est.no.- 33)	1	Job	Rs.27,302.80	Rs.27,302.80
38	Replacement of Existing Solar driven Pump with Electric driven single phase 2 H.P. submersible pump set having discharging capacity 3 lps at a total head of 45meter (approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I. (As per sub Est. no.- 34)	1	Job	Rs.88500.00	Rs.88,500.00
39	Supplying, installation Testing & commissioning of Solar Panel plate etc all complete as per direction of E/I. (As per sub Est. no.- 35)	1	Job	Rs.15,750.00	Rs.15,750.00
40	Supplying, installation Testing & commissioning of Variable Frequency Drive (VFD), Change over Switch and Net Energy Metering (NEM) system (As per sub Est. no.- 36)	1	Job	Rs.60,450.00	Rs.60,450.00
41	Providing and Fixing 12 VOLT Solar Battery as per direction of E/I. (As per sub Est. no.- 37)	1	Job	Rs.35,000.00	Rs.35,000.00
42	Providing all labours, tools and materials to repair the leakage of different sizes of pipe at different places including earthwork in excavation, opening of joint, dewatering of the trenches, making lead caulked joint & back filling the trenches etc. all complete work (As per sub Est. no.- 38)				
	40mm dia				
	(i) without road cutting	1	Nos.	Rs.820.00	Rs.820.00
	(ii) with Pucca road cutting	1	Nos.	Rs.2,006.73	Rs.2,006.73
	50mm dia				
	(i) without road cutting	1	Nos.	Rs.890.00	Rs.890.00
	(ii) with Pucca road cutting	1	Nos.	Rs.2,076.73	Rs.2,076.73
	65mm dia				
	(i) without road cutting	1	Nos.	Rs.1,180.00	Rs.1,180.00
	(ii) with Pucca road cutting	1	Nos.	Rs.2,366.73	Rs.2,366.73
	80mm dia				
	(i) without road cutting	1	Nos.	Rs.1,250.00	Rs.1,250.00
	(ii) with Pucca road cutting	1	Nos.	Rs.2,436.73	Rs.2,436.73
43	Repairing of 63/25 kva transformer including LT panel repair in pump house Including Conductor,fuse relay,Timer as required,ST- CTBT panel repair,Transformer Oil (630Ltr) Make-Servo etc all complete as per direction of engineer in charge.	1	Nos.	Rs.12,000.00	Rs.12,000.00
44	Providing all labours, materials and cleaning of RCC water VAT from inside and doing chlorination etc. all complete work as per specification & direction of E/I. (As per sub Est. no.- 39)	1	Nos.	Rs.1,053.60	Rs.1,053.60
45	Construction of 200 mm x 150 mm x 125 m deep T/W etc. with UPVC Pipe all complete and as per direction of E/I. (as per sub-estimate no.40).	1	Nos.	Rs.361,106.00	Rs.361,106.00
46	Construction of 200 mm x 150 mm x 125 m deep T/W etc. with MS Pipe all complete and as per direction of E/I. (as per sub-estimate no.41).	1	Nos.	Rs.474,807.00	Rs.474,807.00
47	Construction of 300 mm x 200 mm x 125 m deep T/W etc. with MS Pipe all complete and as per direction of E/I. (as per sub-estimate no.42).	1	Nos.	Rs.727,318.15	Rs.727,318.15
48	Construction of 450 mm x 300 mm x 125 m deep T/W etc. with MS Pipe all complete and as per direction of E/I. (as per sub-estimate no.43).	1	Nos.	Rs.1,390,348.00	Rs.1,390,348.00
	Painting of 10000 Gallon Water Tower. (as per sub-estimate no.44).	1	Nos.	Rs.164,266.00	Rs.164,266.00

S.N.	Description	Quantity	Unit	Rate	Total Amount
	Painting of 20000 Gallon Water Tower. (as per sub-estimate no.45).	1	Nos.	Rs.179,058.00	Rs.179,058.00
	Painting of 40000 Gallon Water Tower. (as per sub-estimate no.46).	1	Nos.	Rs.243,020.00	Rs.243,020.00
	Painting of 50000 Gallon Water Tower (as per sub-estimate no.47).	1	Nos.	Rs.312,122.00	Rs.312,122.00
49	Provision of pump operator	1	Nos.	Rs.4,000.00	Rs.4,000.00
50	Payment of electricity bills	as per actual electricity bills.			

Executive Engineer,
P.H.Division, Patna West, Patna

Bill of Quantity 2 (Variable Cost)

1 WATER SUPPLY: DUCTILE IRON (DI) SPECIALS

1.1 Providing Ductile Iron Push on special confirming to IS 9523:2000

1.1.1	100mm	diameter	11.25°	Each	1366.00
1.1.2	100mm	diameter	22.50°	Each	1464.00
1.1.3	100mm	diameter	45°	Each	2064.00
1.1.4	100mm	diameter	90°	Each	1817.00
1.1.5	150mm	diameter	11.25°	Each	2148.00
1.1.6	150mm	diameter	22.50°	Each	2207.00
1.1.7	150mm	diameter	45°	Each	2480.00
1.1.8	150mm	diameter	90°	Each	3145.00
1.1.9	200mm	diameter	11.25°	Each	3232.00
1.1.10	200mm	diameter	22.50°	Each	3396.00
1.1.11	200mm	diameter	45°	Each	4172.00
1.1.12	200mm	diameter	90°	Each	5369.00
1.1.13	250mm	diameter	11.25°	Each	4235.00
1.1.14	250mm	diameter	22.50°	Each	4622.00
1.1.15	250mm	diameter	45°	Each	5706.00
1.1.16	250mm	diameter	90°	Each	7465.00
1.1.17	300mm	diameter	11.25°	Each	5932.00
1.1.18	300mm	diameter	22.50°	Each	7077.00
1.1.19	300mm	diameter	45°	Each	8673.00
1.1.20	300mm	diameter	90°	Each	11217.00
1.1.21	350mm	diameter	11.25°	Each	7801.00
1.1.22	350mm	diameter	22.50°	Each	9197.00
1.1.23	350mm	diameter	45°	Each	11701.00
1.1.24	350mm	diameter	90°	Each	16627.00
1.1.25	400mm	diameter	11.25°	Each	11195.00
1.1.26	400mm	diameter	22.50°	Each	12825.00

1.2 Providing Ductile Iron(DI) push on specials confirming to IS 9523:2000

1.2.1	400mm	diameter	45°	Each	16224.00
1.2.2	400mm	diameter	90°	Each	22716.00
1.2.3	450mm	diameter	11.25°	Each	13998.00
1.2.4	450mm	diameter	22.50°	Each	15967.00
1.2.5	450mm	diameter	45°	Each	20976.00
1.2.6	450mm	diameter	90°	Each	28788.00
1.2.7	500mm	diameter	11.25°	Each	16939.00
1.2.8	500mm	diameter	22.50°	Each	20568.00
1.2.9	500mm	diameter	45°	Each	28165.00
1.2.10	500mm	diameter	90°	Each	39127.00
1.2.11	600mm	diameter	11.25°	Each	25143.00
1.2.12	600mm	diameter	22.50°	Each	31833.00
1.2.13	600mm	diameter	45°	Each	41729.00
1.2.14	600mm	diameter	90°	Each	60864.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 socketed DI equal

1.3 tees

1.3.1	100mm	100mm	100mm	Each	2499.00
1.3.2	150mm	150mm	150mm	Each	3946.00
1.3.3	200mm	200mm	200mm	Each	6423.00
1.3.4	250mm	250mm	250mm	Each	6809.00
1.3.5	300mm	300mm	300mm	Each	13825.00
1.3.6	450mm	450mm	450mm	Each	31634.00
1.3.7	500mm	500mm	500mm	Each	40497.00
1.3.8	600mm	600mm	600mm	Each	57855.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 double socketed

1.4 with flanged branch DI unequal Tees

1.4.1	150mm	150mm	100mm	Each	2728.00
1.4.2	200mm	200mm	100mm	Each	3836.00
1.4.3	250mm	250mm	100mm	Each	5010.00
1.4.4	300mm	300mm	100mm	Each	6528.00
1.4.5	350mm	350mm	100mm	Each	10768.00
1.4.6	400mm	400mm	100mm	Each	9436.00
1.4.7	450mm	450mm	100mm	Each	13841.00
1.4.8	500mm	500mm	100mm	Each	17346.00
1.4.9	600mm	600mm	150mm	Each	21320.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 all socketed DI

1.5 unequal Tees

1.5.1	100mm	X	80mm	Each	2413.00
1.5.2	150mm	X	80mm	Each	3521.00
1.5.3	150mm	X	100mm	Each	3417.00
1.5.4	200mm	X	80mm	Each	4804.00
1.5.5	200mm	X	100mm	Each	4867.00
1.5.6	200mm	X	150mm	Each	5585.00
1.5.7	250mm	X	80mm	Each	6299.00
1.5.8	250mm	X	100mm	Each	6258.00
1.5.9	250mm	X	150mm	Each	7445.00
1.5.10	250mm	X	200mm	Each	7978.00
1.5.11	300mm	X	100mm	Each	6874.00
1.5.12	300mm	X	150mm	Each	10085.00
1.5.13	300mm	X	200mm	Each	10902.00
1.5.14	300mm	X	250mm	Each	12088.00
1.5.15	350mm	X	100mm	Each	9996.00
1.5.16	350mm	X	150mm	Each	11729.00
1.5.17	350mm	X	200mm	Each	13716.00
1.5.18	350mm	X	250mm	Each	16159.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 all socketed DI

1.6 reducers/tapers

1.6.1	100	80 mm	Each	1347.00
1.6.2	150	80 mm	Each	2217.00
1.6.3	150	100 mm	Each	2368.00
1.6.4	200	100 mm	Each	3416.00
1.6.5	200	150 mm	Each	3252.00
1.6.6	250	100 mm	Each	4684.00
1.6.7	250	150 mm	Each	4786.00
1.6.8	250	200 mm	Each	4356.00
1.6.9	300	100 mm	Each	6913.00
1.6.10	300	150 mm	Each	6913.00
1.6.11	300	200 mm	Each	6738.00
1.6.12	300	250 mm	Each	6347.00
1.6.13	350	150 mm	Each	9753.00
1.6.14	350	200 mm	Each	9075.00
1.6.15	350	250 mm	Each	8476.00
1.6.16	350	300 mm	Each	8023.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 all DI flanged

1.7 socketed, DI flanged spigot, MS end plates

1.7.1	D.I. flanged socketed			
1.7.2	D.I. flanged socketed	100 mm	Each	1543.00
1.7.3	D.I. flanged socketed	150 mm	Each	2499.00
1.7.4	D.I. flanged socketed	200 mm	Each	3374.00
1.7.5	D.I. flanged socketed	250 mm	Each	4978.00
1.7.6	D.I. flanged socketed	300 mm	Each	6179.00
1.7.7	D.I. flanged socketed	350 mm	Each	8882.00
1.7.8	D.I. flanged socketed	400 mm	Each	10778.00

Providing Ductile Iron push on specials confirming to IS 9523:2000 all DI flanged MJ

1.8 collar

1.8.1	100 mm	Each	1231.00
1.8.2	150 mm	Each	1756.00
1.8.3	200 mm	Each	3171.00
1.8.4	250 mm	Each	5788.00
1.8.5	300 mm	Each	8449.00
1.8.6	350 mm	Each	7064.00
1.8.7	400 mm	Each	8498.00

2 Water supply works

Removing the GI pipes, cleaning, washing and using at spot or conveying from work site to office/store with all lead and lift i/c removal of all items such as collars,

2.1 elbows, tees, bends etc,

2.1.1	15mm	to	25mm	m	26.00
2.1.2	32mm	to	80mm	m	48.00
2.1.3	100mm			m	62.00

Labour charges for laying and jointing GI pipes with earthwork i/c collars, elbows, tees, bends etc. with cuts and threads, white lead paint, conveying the material

2.2 from store to work site and returning the surplus at store

2.2.1	15mm	dia.	GI	m	10.00
2.2.2	20mm	dia.	GI	m	13.00
2.2.3	25mm	dia.	GI	m	19.00
2.2.4	40mm	dia.	GI	m	24.00
2.2.5	50mm	dia.	GI	m	32.00
2.2.6	65mm	dia.	GI	m	32.00
2.2.7	80mm	dia.	GI	m	32.00
2.2.8	100mm	dia.	GI	m	53.00

2.3 Cutting charges for CI/DI pipes laid in the ground with necessary tools

2.3.1	100mm	dia	pipes	Each	75.00
2.3.2	125mm	dia	pipes	Each	79.00
2.3.3	150mm	dia	pipes	Each	83.00
2.3.4	175mm	dia	pipes	Each	92.00
2.3.5	200mm	dia	pipes	Each	117.00
2.3.6	225mm	dia	pipes	Each	125.00
2.3.7	250mm	dia	pipes	Each	167.00
2.3.8	300mm	dia	pipes	Each	208.00
2.3.9	375mm	dia	pipes	Each	229.00
2.3.10	400mm	dia	pipes	Each	250.00

Making cement mortar (1:1) and hemp yarn joint for CI pipes i/c cost of all materials

2.4 viz. cement, sand, hemp, curing for 10 days complete

2.4.1	80 mm	dia.		97.00
2.4.2	100 mm	dia.		137.00
2.4.3	150 mm	dia.		169.00
2.4.4	200 mm	dia.		228.00
2.4.5	225 mm	dia.		255.00
2.4.6	250 mm	dia.		266.00
2.4.7	300 mm	dia.		319.00
2.4.8	350 mm	dia.		424.00
2.4.9	375 mm	dia.		458.00
2.4.10	400 mm	dia.		526.00

Removing CI/DI valves and its tail piece from the pipeline, cleaning, washing,

2.5 painting and returning the same at store

2.5.1	50mm	dia.	Each	148.00
2.5.2	80mm	dia.	Each	250.00
2.5.3	100mm	dia.	Each	265.00
2.5.4	125mm	dia.	Each	267.00
2.5.5	150mm	dia.	Each	339.00
2.5.6	175mm	dia.	Each	353.00
2.5.7	200mm	dia.	Each	473.00
2.5.8	225mm	dia.	Each	491.00
2.5.9	250mm	dia.	Each	691.00
2.5.10	300mm	dia.	Each	819.00
2.5.11	375mm	dia.	Each	828.00
2.5.12	400mm	dia.	Each	1166.00

Removing and cleaning CI/DI pipes and specials i/c jointing materials, washing

2.6 (excluding valves)

2.6.1	80mm	dia.	m	67.00
2.6.2	100mm	dia.	m	81.00
2.6.3	150mm	dia.	m	98.00
2.6.4	200mm	dia.	m	109.00
2.6.5	250mm	dia.	m	126.00
2.6.6	300mm	dia.	m	155.00
2.6.7	350mm	dia.	m	178.00
2.6.8	400mm	dia.	m	202.00

2.7 Conveying CI/DI pipes and specials through transportation vehicles

2.7.1	upto 5km i/c loading and unloading	qnt	150.00
2.7.2	upto 5km to 10 km excluding loading and unloading	qnt	26.00
2.7.3	beyond 10km excluding loading and unloading	qnt	16.00

Fixing DI/CI specials of mechanical jointing of different sizes after setting into the pipeline i/c cleaning, inserting rubber gasket, tightening with bolts & nuts i/c hire

2.8 charges for T&P, appurtenances and lifting equipments

2.17.1	100mm to 200mm dia.	dia.	Each	46.00
2.17.2	250mm to 400mm dia.	dia.	Each	76.00

Providing and fixing DI Resilient seated soft sealing SLUICE VALVE of various dia. with body bonnet of Ductile Iron (DI) conforming to IS-1865 with the latest amendments and of grade GGG 40/50, shaft of stainless steel, wedge fully rubber lined with EDPM seals of NBR and the valves should be vacuum tight and 100% leak proof with face to face dimensions as per IS 14846-2000 with the latest amendments only. The stem sealing should be with toroidal sealing rings (minimum 2 " O " rings). Body and bonnet should be coated with Electrostatically applied Epoxy Powder Coating with minimum coating thickness of 250 micron both inside and outside. The rate is inclusive of cost of valves, T.P set, galvanized bolts & nuts and rubber insertions etc. but excluding earth work. For PN-10: (Note: TP set should be considered only for DI pipes estimate. For MS pipes estimates, TP sets cost of corresponding dia shall be deducted from the SR rates of valves and provision for

2.9 corresponding dia MS flanges should be made in the estimate.) etc. complete

2.9.1	For sluice Valve of 50mm	Each	5535.00
2.9.2	For sluice Valve of 80mm	Each	10393.00
2.9.3	For sluice Valve of 100mm	Each	10884.00
2.9.4	For sluice Valve of 150mm	Each	17490.00
2.9.5	For sluice Valve of 200mm	Each	28709.00
2.9.6	For sluice Valve of 250mm	Each	46491.00
2.9.7	For sluice Valve of 300mm	Each	60325.00
2.9.8	For sluice Valve of 350mm	Each	93233.00
2.9.9	For sluice Valve of 400mm	Each	125367.00

Providing and fixing Wafer type single flange Butterfly valve conforming to relevant IS 13099/9991 EN GGG40/50 with latest amendments as detailed below of the following diameter and types with TP set and conveying to work site, loading and unloading, stacking etc. with all lead and lift. The rate is inclusive of the cost of

2.10 valve, TP set, rubber insertion, bolts and nuts and excluding earth work excavation. For PN 10.0 (Note: TP set should be considered only for DI pipes estimate. For MS pipes estimates, TP sets cost of corresponding dia shall be deducted from the SR rates of valves and provision for corresponding dia MS flanges should be made in the estimate.

2.10.1	For sluice Valve of 100mm	Each	5849.00
2.10.2	For sluice Valve of 150mm	Each	12553.00
2.10.3	For sluice Valve of 200mm	Each	13971.00
2.10.4	For sluice Valve of 250mm	Each	15374.00
2.10.5	For sluice Valve of 300mm	Each	17346.00
2.10.6	For sluice Valve of 350mm	Each	23477.00
2.10.7	For sluice Valve of 400mm	Each	33092.00

Providing and fixing of Double Flanged Resilient seated short body Butterfly valves of various dis. As per IS 13095/en 593 with integral DI seat face with approved soft sealing with body and disc of Ductile Iron (DI) of grade GGG-40/50, Body seat & Seal retaining ring of SS 304/CF8, Shaft of stainless steel AISI 410/420/431, Bronze shaft bearing, periferal disk, seal end "o" rings of EPDM, double eccentric disk. Body and disk should be coated with electrostatcially applied epoxy powder coating with a

2.11 coating thickness of 250 micron both inside and out side. The rate is inclusive of cost of valve, TP set, galvanised bolts and nuts and rubber insertions. For PN 10.0 (All the drilled holes in the body shall be of through holes, no tapped holes will be allowed.) (Note: TP set should be considered only for DI pipes estimate. For MS pipes estimates, TP sets cost of corresponding dia shall be deducted from the SR rates of valves and provision for corresponding dia MS flanges should be made in the estimate.) etc. complete

2.11.1	For Valve of PN 10.0 and 700mm	Each	184739.00
2.11.2	For Valve of PN 10.0 and 750mm	Each	239773.00
2.11.3	For Valve of PN 10.0 and 800mm	Each	265385.00
2.11.4	For Valve of PN 10.0 and 900mm	Each	313821.00
2.11.5	For Valve of PN 10.0 and 1000mm	Each	407895.00

Providing & Fixing sluice valves/ Butterfly Valves (labour charges only) conforming to relevant ISS with latest amendments as detailed below for the following diameter

2.12 and types with two Each of MJ collars, two flanged spigots, conveying to work site, loading, unloading, stacking with appurtenances. with all lead and lifts, aligning, fixing and testing with appurtenances. etc. complete.

2.1.2.1	For sluice valve with accessories - 50mm dia.	Each	341.00
2.1.2.2	For sluice valve with accessories - 80mm dia.	Each	381.00
2.1.2.3	For sluice valve with accessories - 100mm dia.	Each	463.00
2.1.2.4	For sluice valve with accessories - 150mm dia.	Each	524.00
2.1.2.5	For sluice valve with accessories - 200mm dia.	Each	769.00
2.1.2.6	For sluice valve with accessories - 250mm dia.	Each	1167.00
2.1.2.7	For sluice valve with accessories - 300mm dia.	Each	1262.00

2.13 Providing and fixing DI MJ specials such as branches and bends suitable for DI K7 and K9 pipes and CI LA class pipes, as per IS 13382 with latest amendments with complete accessories and fixing at site excluding earth work but including loading, unloading, freight charges etc. complete for:

2.13.1	DI MJ specials - Branch 100 x 100mm	Each	1701.00
2.13.2	DI MJ specials - Branch 150 x 150mm	Each	2673.00
2.38.3	DI MJ specials - Branch 150 x 100mm	Each	2322.00
2.38.4	DI MJ specials - Bend 100 x 90 degree mm	Each	1203.00
2.38.5	DI MJ specials - Bend 100 x 45 degree	Each	1174.00
2.38.6	DI MJ specials - Bend 150 x 90 degree	Each	2322.00
2.38.7	DI MJ specials - collar 100mm dia.	Each	2287.00
2.38.8	DI MJ specials - collar 150mm dia.	Each	4102.00

2.14 Providing, fabricating and fixing at site various diameter MS MJ ends with dummy plates (END CAPS) to suit CI / DI spigots end as per the sketch. The cost is inclusive of all materials, i.e, rubber 'O' rings, flanges, bolts and nuts, dummy plates, consumables, hire charges, tools and welding equipments, lead and lifts, etc. complete as per the instructions of Engineer in charge.

2.14.1	For CI / DI pipes of 100mm dia.	Each	1158.00
2.14.2	For CI / DI pipes of 150mm dia.	Each	1609.00
2.14.3	For CI / DI pipes of 200mm dia.	Each	2226.00
2.14.4	For CI / DI pipes of 250mm dia.	Each	3213.00
2.14.5	For CI / DI pipes of 300mm dia.	Each	3230.00
2.14.6	For CI / DI pipes of 400mm dia.	Each	5077.00

2.15 Providing and fixing of Extension spindle rods, PN 10 /16 suitable for Gate valve of following dia for open and closing application, Extension Spindle lengths shall be available on required sizes as per site conditions, spindle shall be of fixed type, suitable size of MS Square bar epoxy coated, bottom adaptor & Spindle cap (epoxy coated /galvanised) ductile iron Gr40. Protection tube of PVC, Top and Bottom cover / Bottom Connector shall be made by PVC, Bolt shall be made by Zinc coated steel 8.8 Split pin shall be made by Electro galvanized, this set up should help to have a buried application of Gate Valves etc. complete as per the directions of the Engineer-in-Charge.

2.15.1	50 - 150mm dia	m	4762.00
2.15.2	200 - 450mm dia	m	6449.00

2.16 Providing & fixing RCC Pre-cast Cover Slab of size 0.8 m x 0.8 m x 0.15m of M25-Design mix concrete with 12 mm steel @ 120 mm c/c both ways, over Gate valve extension spindle with central opening along with lid for smooth operation with appurtenances., complete with all lead and lifts etc. complete

Each 2386.00

Conveying with all lead & lift and
fixing C.I/D.I specials, bends,

2.17 branches, tees, with
appurtenances, all sizes and
aligning.

2.17.1	50 mm dia to 100 mm dia	Each	105.00
2.17.2	125 mm dia to 225 mm dia	Each	131.00
2.17.3	250 mm dia to 600 mm dia	Each	203.00

3 Attendind leakages

Providing & fixing CI/DI pipes socket leak repair MJ clamps for attending to leak joints in socket / spigot joints of CI / DI pipes with necessary earth work excavation including using of pneumatic breakers and JCB excavator wherever required and providing DI MJ leak repair clamp, including cost of all materials required for jointing

3.1 comprising of DI MJ clamps and its accessories such as rubber gaskets made of SBR / EPDM on the socket face, making the socket / spigot joint water tight at the operating pressure, backfilling with available earth and consolidation and bailing out water wherever necessary etc. complete and In all types of road surfaces like Concrete, Asphalt roads etc, for:

3.1.1	CI / DI pipes of 100mm dia.	Each	2357.00
3.1.2	CI / DI pipes of 150mm dia.	Each	3563.00
3.1.3	CI / DI pipes of 200mm dia.	Each	4032.00
3.1.4	CI / DI pipes of 250mm dia.	Each	5255.00
3.1.5	CI / DI pipes of 300mm dia.	Each	6426.00
3.1.6	CI / DI pipes of 400mm dia.	Each	9059.00
3.1.7	CI / DI pipes of 450mm dia.	Each	11257.00

Attending to leaking socket / spigots joints in CI / DI pipes in all types of road surfaces including concrete and asphalt roads, with necessary earth work excavation including using of pneumatic breakers and JCB excavator wherever required for

3.2 jointing DI MJ clamp and its accessories such as rubber gaskets made of SBR / EPDM on the socket face, making the socket / spigot joint water tight at the operating pressure, backfilling with available earth and consolidation and bailing out water wherever necessary etc.complete.

3.2.1	For CI / DI pipes of 100mm dia.	Each	722.00
3.2.2	For CI / DI pipes of 150mm dia.	Each	814.00
3.2.3	For CI / DI pipes of 200mm dia.	Each	820.00
3.2.4	For CI / DI pipes of 250mm dia.	Each	954.00
3.2.5	For CI / DI pipes of 300mm dia.	Each	1254.00
3.2.6	For CI / DI pipes of 400mm dia.	Each	1289.00
3.2.7	For CI / DI pipes of 450mm dia.	Each	1406.00

3.3	<p>Cutting Asphalt /Concrete road surface using machine cutter for leakage pit with earth work excavation in all classifications of soil including all lead and lifts bailing out water with pumps including barricading, danger lighting etc., as per requirement and disposing of the excavated stuff as directed. After attending the leak, refilling the trench for 30 cm depth quarry dust above and around pipelines and balance with available earth in layers not exceeding 20 cms in depth, compacting Each deposited layer by ramming including watering and consolidation by mechanical means approved by Engineer Incharge. (Work to be carried out as per leak repair manual and the rate includes hire charges of dewatering Pump, tractor, Jeep with all kinds of Labour in a Complete manner).</p>	m ²	1157.00
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3.4	<p>Road Reinstatement of Asphalt /Concrete roads after leak attending with earth work excavation of compacted soil depositing on bank with all lead and lifts including danger lighting and barricading. Providing, laying, spreading and compacting graded stones aggregate as per wet mix macadam specifications. Applying tack coat on granular base such as WBM and WMM surface hot bitumen primer at 4 kg per 10 sqm, heating bitumen in layer to be laid with boiler fitted with spray set of 300 mm thickness. Above laid with bituminous concrete or M20 concrete premixed with bituminous binder at 5.4 to 5.6% of mix and filler, to achieve the desired compaction to give minimum of 45mm thickness compacted. The work shall be carried as per leak repair manual and includes all kinds of materials disposing off the excess excavated Earth with all lead and lifts by vehicle including loading, unloading, labour, HOM of machinery etc. in a complete manner.</p>	m ²	1690.00
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4 DI Pipes

Providing and laying Ductile Iron pipes of class conforming to IS 8329:2000 with latest amendments, conveying to work site, rolling and lowering into trenches, laying true to line, level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations, cutting of pipes wherever necessary, jointing with DI specials (excluding cost of specials) and rubber gaskets, cleaning the socket and spigot end with soap solution, applying soft soap to the socket and spigot ends before insertion of rubber gaskets, jacking and fixing in perfect conditions etc. The cost to include soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS with all lead and lifts and cost of all jointing materials. (The contractor will make his own arrangements for water for testing. Earth work excavation in trenches to be measured and paid for separately) Note: In sewerage projects for internal cement mortar lining (CML) of DI pipes, if High Alumina Cement (HAC) as recommended in Annexure B clause 16.3 of IS8329:2000 is considered in place of Slag or Sulphate Resistance Cement (SRC), the cost of pipes may be increased by 5-6% from the prices listed. For DI K7 pipes:

4.1.1	100mm dia pipe	m	1460.00
4.1.2	150mm dia pipe	m	2016.00
4.1.3	200mm dia pipe	m	2576.00
4.1.4	250mm dia pipe	m	3140.00
4.1.5	300mm dia pipe	m	3968.00
4.1.6	350mm dia pipe	m	4999.00
4.1.7	400mm dia pipe	m	5976.00

Labour charges for laying & jointing of DI pipes of all classes rolling and lowering into trenches, laying true to line, level and perfect linking at joints and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing of DI pipes and specials (excluding cost of pipes, rubber gasket and specials) with rubber gaskets including cleaning the sockets and spigot ends with soap solutions and applying soft soap to the spigot and socket end before insertion of rubber gaskets, jointing and fixing in perfect conditions including the cost of soap solution, soft soap, waste etc. and giving necessary hydraulic test to the required pressure as per ISS etc. with all leads and lifts (Earth work excavation in trenches, conveying of materials from stores to be measured and paid for separately) (Contractor will make his own arrangements for procuring water for testing) etc. complete for:

4.2.1	100mm dia pipe	m	72.00
4.2.2	150mm dia pipe	m	103.00
4.2.3	200mm dia pipe	m	150.00
4.2.4	250mm dia pipe	m	261.00
4.2.5	300mm dia pipe	m	311.00
4.2.6	350mm dia pipe	m	339.00
4.2.7	400mm dia pipe	m	378.00

Labour charges for making flanged joints including cost of jointing materials comprising of rubber insertion, galvanised bolts and nuts including giving hydraulic test to the required pressure as per ISS with all lead & lift (contractor will make his own arrangement for procuring water for testing) etc. complete

4.5.1	Pipes and specials of dia 50mm.	Each	113.00
4.5.2	Pipes and specials of dia 80mm.	Each	124.00
4.5.3	Pipes and specials of dia 100mm.	Each	208.00
4.5.4	Pipes and specials of dia 150mm.	Each	310.00
4.5.5	Pipes and specials of dia 200mm.	Each	334.00
4.5.6	Pipes and specials of dia 250mm.	Each	498.00
4.5.7	Pipes and specials of dia 300mm.	Each	520.00
4.5.8	Pipes and specials of dia 350mm.	Each	707.00
4.5.9	Pipes and specials of dia 400mm.	Each	1033.00

Providing RUBBER JOINTING for CI / DI pipes with rubber gaskets including cleaning the socket and spigot ends with soap solution and applying soft soap to the spigot and socket ends before insertion of rubber gaskets, jacking and fixing in perfect conditions including cost of soap solution, soft soap, waste etc with all lead and lift including cost of jointing materials etc.complete for:

4.6.1	100mm	Each	90.00
4.6.2	150mm	Each	123.00
4.6.3	200mm	Each	132.00
4.6.4	250mm	Each	165.00
4.6.5	300mm	Each	193.00
4.6.6	350mm	Each	220.00
4.6.7	400mm	Each	248.00

5 RCC Overhead tanks

Providing and fixing MS ladder between landings, 45 cms wide using angle iron of specified sizes, 20mm MS bars at 25 cms. centre to centre, with necessary supports of same angle iron etc. as directed, including hand railing on both sides with 25mm dia. GI pipes with angle iron props at 2 mtrs. intervals and 0.5M heigh, including fixing in ground with CC 1:2:4 and two coats of anticorrosive bituminous paint etc. with all lead and lifts etc. complete with:

7.1.1	MS angle of 65 x 65 x 8mm	m	4377.00
7.1.2	MS angle of 65 x 65 x 10mm	m	4801.00

Providing, Laying and Jointing Cast Iron (CI) double flanged pipes true to line /

7.6 hoisting of DI flanged pipe in position and aligning to correct plumb, including cost of

jointing materials, conveying to work spot with all lead and lifts etc.complete.

7.6.1	For double flanged CI pipes of 80mm dia.	m	2245.00
7.6.2	For double flanged CI pipes of 100mm dia.	m	3010.00
7.6.3	For double flanged CI pipes of 150mm dia.	m	4808.00
7.6.4	For double flanged CI pipes of 200mm dia.	m	6592.00
7.6.5	For double flanged CI pipes of 250mm dia.	m	9272.00

Providing and fixing lightening arrestor with aluminium strip 25mm x 3mm size

7.7 including finial and grounding, aluminium strip to be embeded in one of the columns

in and independent GI conduit of 40mm dia. pipe suitably jointed by collars with all specials with all lead and lifts etc. complete for:

7.7.1	For Over Head Tanks upto 6 M staging	Each	8088.00
7.7.2	For Over Head Tanks upto 9 M staging	Each	9387.00
7.7.3	For Over Head Tanks upto 12M staging	Each	11530.00
7.7.4	For Over Head Tanks above 12M staging	Each	13889.00

Providing, of DI flanged pipe conforming to IS 8329 : 2000 with latest amendments with Cement Mortar Lining (CML) with Portland Slag Cement as per IS 455:1989 and Metallic Zinc Coating as per annexure A of IS 8329 with finishing layer of Bituminous

7.9 Coating as per Annexure C of IS 8329 and Flanges: Metallic zinc rich epoxy paint & Bituminous Coating, laying true to line and hoisting in position and aligning to correct plumb including cost of jointing material, conveying to work spot with all lead and lifts etc., complete. For PN 10.0

7.9.1	100mm	m	4671.00
7.9.2	150mm	m	6635.00
7.9.3	200mm	m	8978.00
7.9.4	250mm	m	12996.00
7.9.5	300mm	m	16360.00

7.11 Providing Ductile Iron Push on special confirming to IS 9523:2000 - All Double Socket Duck Foot DI Bends:

7.11.1	80 X 90	Each	2365
7.11.2	100 X 90	Each	3063
7.11.3	150 X 90	Each	5162
7.11.4	200 X 90	Each	8750
7.11.5	250 X 90	Each	13770
7.11.6	300 X 90;	Each	18320

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to RCC structures like floor and walls of reservoirs, sewage, effluent and water treatment plants, overhead tanks, etc. prepared by mixing in the ratio of 5:2 (5 parts integral crystalline slurry 2 parts water) for horizontal and vertical surfaces and applying the same from negative (internal) side with the help of synthetic fibre brush. The material shall meet the requirements as specified in ACI - 212-3R-

8.2	2010 ie. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 Bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self healing of cracks upto a width of 0.50 mm. The work shall be carried out all complete as per specification and the direction of the Engineer in charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal and vertical surfaces in two coats @ 0.70 kg per sqm per coat	m2	433.00
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6 PE pipes

Lowering and laying and fusion welding Jointing for HDPE Pipes Grade PE- 80 / PE-100 conforming to IS 4984-2016, of specified dia. including hydraulic testing and commissioning etc. (Contractor will make his own arrangements for procuring water for testing) for:

9.15.1	63mm dia	m	64.00
9.15.2	75mm dia	m	67.00
9.15.3	90mm dia	m	71.00
9.15.4	110mm dia	m	95.00
9.15.5	125mm dia	m	107.00

7 GI Pipes

Providing, Laying and Fixing of GI pipes conforming to IS 1239:1990 with latest amendments complete with GI fittings (excluding the cost of fittings) with cuts and threads wherever necessary, including testing for water tightness, with all lead and commissioning. (contractor will make his own arrangements for procuring water for testing) For: Heavy Duty GI Pipe etc. complete.

11.2 For Medium Duty GI pipe:

11.2.6	Medium Duty GI pipe of 50mm dia	m	584.00
11.2.7	Medium Duty GI pipe of 65mm dia	m	719.00
11.2.8	Medium Duty GI pipe of 80mm dia	m	891.00
11.2.9	Medium Duty GI pipe of 100mm dia	m	1245.00

11.3 For Heavy Duty GI pipe:

11.3.6	Heavy Duty GI pipe of 50mm dia	m	679.00
11.3.7	Heavy Duty GI pipe of 65mm dia	m	834.00
11.3.8	Heavy Duty GI pipe of 80mm dia	m	1009.00
11.3.9	Heavy Duty GI pipe of 100mm dia	m	1412.00

11.4 Providing and fixing GI union in existing GI pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required etc. complete for:

11.4.6	20.88.6: 50 mm nominal bore	Each	660.00
11.4.7	20.88.7: 65 mm nominal bore	Each	878.00
11.4.8	20.88.8: 80 mm nominal bore	Each	1041.00

11.5 Providing lead caulked joints to spun iron or CI pipes and specials with spun yarn and lead, including caulking and giving satisfactory hydraulic test corresponding to the required pressure etc. complete for:

11.5.1	Spun / CI / DI pipes 80MM	Each	481.00
11.5.2	Spun / CI / DI pipes 100MM	Each	500.00
11.5.3	Spun / CI / DI pipes 150MM	Each	747.00
11.5.4	Spun / CI / DI pipes 200MM	Each	944.00
11.5.5	Spun / CI / DI pipes 250MM	Each	1210.00
11.5.6	Spun / CI / DI pipes 300MM	Each	1425.00

11.6 Providing wrought mild steel (galvanized) GI collar confirming to IS 1239-II, 1991 with latest amendments if any.

11.6.6	For 50 mm dia GI collar:	Each	267.00
11.6.7	For 65 mm dia GI collar:	Each	312.00
11.6.8	For 80 mm dia GI collar:	Each	421.00
11.6.9	For 100 mm dia GI collar:	Each	505.00
11.6.10	For 125 mm dia GI collar:	Each	636.00
11.6.11	For 150 mm dia GI collar:	Each	695.00

11.7 Supply and delivery at site wrought middle steel (galvanized) GI elbow confirming to IS 1239-II, 1991 with latest amendments if any for:

11.7.6	For 50 mm dia GI elbow	Each	267.00
11.7.7	For 65 mm dia GI elbow	Each	297.00
11.7.8	For 80 mm dia GI elbow	Each	417.00
11.7.9	For 100 mm dia GI elbow	Each	490.00
11.7.10	For 125 mm dia GI elbow	Each	578.00
11.7.11	For 150 mm dia GI elbow	Each	651.00

11.8 Supply and delivery at site wrought middle steel (galvanized) GI bend confirming to IS 1239-II, 1991 with latest amendments if any.

11.8.6	For 50 mm dia GI BEND	Each	358.00
11.8.7	For 65 mm dia GI BEND	Each	404.00
11.8.8	For 80 mm dia GI BEND	Each	490.00
11.8.9	For 100 mm dia GI BEND	Each	600.00
11.8.10	For 125 mm dia GI BEND	Each	680.00
11.8.11	For 150 mm dia GI BEND	Each	724.00

11.9 Supply and delivery at site wrought middle steel (galvanized) GI tee confirming to IS 1239-II, 1991 with latest amendments if any.

11.9.6	For 50 mm dia GI TEE	Each	297.00
11.9.7	For 65 mm dia GI TEE	Each	373.00
11.9.8	For 80 mm dia GI TEE	Each	434.00
11.9.9	For 100 mm dia GI TEE	Each	607.00
11.9.10	For 125 mm dia GI TEE	Each	775.00
11.9.11	For 150 mm dia GI TEE	Each	914.00

11.1 Supply and delivery at site wrought middle steel (galvanized) GI socket confirming to IS 1239-II, 1991 with latest amendments if any.

11.10.6	For 50 mm dia GI socket	Each	297.00
11.10.7	For 65 mm dia GI socket	Each	373.00
11.10.8	For 80 mm dia GI socket	Each	454.00
11.10.9	For 100 mm dia GI socket	Each	563.00
11.10.10	For 125 mm dia GI socket	Each	614.00
11.10.11	For 150 mm dia GI socket	Each	731.00

11.11 Supply and delivery at site wrought middle steel (galvanized) GI plugs confirming to IS 1239-II, 1991 with latest amendments if any.

11.11.6	For 50 mm dia GI Plugs	Each	199.00
11.11.7	For 65 mm dia GI Plugs	Each	237.00
11.11.8	For 80 mm dia GI Plugs	Each	256.00
11.11.9	For 100 mm dia GI Plugs	Each	358.00
11.11.10	For 125 mm dia GI Plugs	Each	432.00
11.11.11	For 150 mm dia GI Plugs	Each	490.00

11.12 Supply and delivery at site wrought middle steel (galvanized) GI union confirming to IS 1239-II, 1991 with latest amendments if any.

11.12.6	For 50 mm dia GI Union	Each	267.00
11.12.7	For 65 mm dia GI Union	Each	351.00
11.12.8	For 80 mm dia GI Union	Each	578.00
11.12.9	For 100 mm dia GI Union	Each	622.00
11.12.10	For 125 mm dia GI Union	Each	666.00
11.12.11	For 150 mm dia GI Union	Each	783.00

Lowering, Laying and Jointing GI pipes conforming to IS 1239:1990 with latest amendments complete with GI fittings (excluding the cost of fittings) with cuts and threads wherever necessary, including testing for water tightness, with all lead and commissioning. (contractor will make his own arrangements for procuring water for testing) for etc. complete.

11.20.6	50mm dia	m	145.00
11.20.7	65mm dia	m	163.00
11.20.8	80mm dia	m	188.00
11.20.9	100mm dia	m	216.00

Executive Engineer,
P.H.Division, Patna West, Patna

Bill of Quantity 3 (Variable Cost)

13 SUBMERSIBLE PUMPSETS AND REPLACEMENT OF PARTS			
	Rewinding of submersible pumpset with copper winding wires of appropriate guage, as per specifications and / or directions of the departmental officials, including all materials, labour, equipment and testing. for all types of submersible pumpsets etc.(with guarantee period not less than 6 months) for		
13.1			
13.1.1	For all types of submersible pumpsets upto 3.0 H.P.	Each	2710.00
13.1.2	above 3 HP and upto 5.0 H.P.	Each	2934.00
13.1.3	above 5.0 HP and upto 5.5H.P.	Each	3116.00
13.1.4	above 5.5 HP and upto 6.0H.P.	Each	3296.00
13.1.5	above 6.0 HP and upto 6.5H.P.	Each	3479.00
13.1.6	above 6.5 HP and upto 7.0H.P.	Each	3659.00
13.1.7	above 7.0 HP and upto 7.5H.P.	Each	3839.00
13.1.8	above 7.5 HP and upto 8.0H.P.	Each	4019.00
13.1.9	above 8.0 HP and upto 8.5H.P.	Each	4201.00
13.1.10	above 8.5 HP and upto 9.0H.P.	Each	4382.00
13.1.11	above 9.0 HP and upto 9.5H.P.	Each	4562.00
13.1.12	above 9.5 HP and upto 10.0H.P.	Each	4744.00

13.1.13	above 10 HP and upto 11 H.P.	Each	5157.00
13.1.14	above 11 HP and upto 12 H.P.	Each	5570.00
13.1.15	above 12 HP and upto 13 H.P.	Each	5983.00
13.1.16	above 13 HP and upto 14 H.P.	Each	6397.00
13.1.17	above 14 HP and upto 15 H.P.	Each	6811.00
13.1.18	15HP to 20 HP	Each	8930.00
13.2	Replace the components of submersible pump sets, requiring replacements decided by the departmental officials, with respective make of damaged ones, including all materials, labour, equipments and testing etc.(with gurantee of period not less than 1 year) for:		
13.2.1	The bowls of same type and make	Each	1500.00
13.2.2	The Intermediate piece (IP) with IP leaded bronze brush.	Each	1050.00
13.2.3	The Oil Seal.	Each	350.00
13.2.4	The Oil Seal.and steel bush	Each	250.00
13.2.5	The Guide Vane	Each	700.00
13.2.6	The Impeller (Shell moulded with aluminium and bronze.)	Each	1500.00
13.2.7	The discharge outlet (DO) bearing DO steel brush DO bearing.	Each	2050.00
13.2.8	The steel bearing bush (DO steel bush)	Each	400.00
13.2.9	The allen screw	Each	1200.00
13.2.10	The pump shaft made out of stainless steel counterless ground with key way (upto 8 stages). Extra for Each stage @ Rs.40/-.	Each	1500.00
13.2.11	The pump key (stainless steel)	Each	650.00
13.2.12	The pump coupling (stainless steel)	Each	1500.00
13.2.13	The Non Return Valve (NRV) assembly complete with rubber 'O' ring.	Each	650.00
13.2.14	The cable guard	Each	350.00
13.2.15	The strainer	Each	450.00
13.2.16	The brass filter	Each	1050.00
13.2.17	The Labour Charges for overhauling of the pump set.	Each	900.00

13.3	Replace the components of motor parts of submersible pump sets, items requiring replacements decided by the departmental officials, with respective make of damaged ones, including all materials, labour, equipments and testing etc and with guarantee/ warranty for one year for:		
13.3.1	The STATOR of motor upto 3 H.P	Each	1500.00
13.3.2	The STATOR of motor 3 to 4 H.P	Each	2500.00
13.3.3	The STATOR of motor 4 to 5 H.P	Each	3500.00
13.3.4	The ROTOR of motor upto 3.0 H.P	Each	1200.00
13.3.5	The ROTOR of motor 3 to 4 H.P	Each	1500.00
13.3.6	The ROTOR motor 4 to 5 H.P	Each	2000.00
13.3.7	The upper flange	Each	650.00
13.3.8	The lower flange	Each	650.00
13.3.9	upper/ lower housing	Each	1200.00
13.3.10	The Lock Ring	Each	350.00
13.3.11	The Carbon Housing	Each	2000.00
13.3.12	The Carbon Housing (Thrust bearing block assembly complete with segment bearing pad.	Each	2200.00
13.3.13	The Carbon Housing (Top carbond / ferrodo padding)	Each	350.00
13.3.14	The Stud and Nuts	Each	200.00
13.3.15	The Gun Metal bearing, centrifugally cast Aluminium Bronze bearing bush	Each	850.00
13.3.16	The Circlips	Each	200.00
13.3.17	The Motor base with pin	Each	500.00
13.3.18	The Transportation of pumping machineries	Each	1200.00
13.3.19	The Re-errection charges of pumping machineries including overhauling and painting	Each	2000.00
13.3.20	The lifting of submersible pumpset from well.	Each	1500.00
13.3.21	The Labour charges only for overhauling	Each	3000.00
13.3.22	Providing of Thermosetting Plastic i.e., Fibere Glass reinforced polyster sheet moulding compound(SMC) pump house with SMC door & canopy etc...,complete component as directed by the departmental officers.	Each	12000.00
13.4	Providing, Single Phase Submersible Pump Sets of 100mm dia (4 inch) suitable for bore well confirming to IS 8034-2000 specifications, to work site with testing of as per instructions of engineer incharge of work and latest amendments etc. complete.		

13.4.1	0.50 HP/0.37kW - 5 STG(stage)	Each	10170.00
13.4.2	0.50 HP/0.37kW - 7 STG(stage)	Each	10855.00
13.5	For 0.75 HP/0.55KW		
13.5.1	5 STG	Each	12280.00
13.5.2	6 STG	Each	12630.00
13.5.3	7 STG	Each	13113.00
13.5.4	10 STG	Each	13373.00
13.5.5	13 STG	Each	13918.00
13.6	1.00 HP/0.75KW		
13.6.1	7 STG	Each	13318.00
13.6.2	10 STG	Each	13910.00
13.6.3	12 STG	Each	14516.00
13.6.4	13 STG	Each	15120.00
13.6.5	18 STG	Each	15680.00
13.7	1.50 HP/1.1KW		
13.7.1	7 STG	Each	13910.00
13.7.2	10 STG	Each	14187.00
13.7.3	12 STG	Each	15418.00
13.7.4	14 STG	Each	16119.00
13.7.5	15 STG	Each	16940.00
13.7.6	18 STG	Each	17546.00
13.7.7	20 STG	Each	18218.00
13.7.8	26 STG	Each	19410.00
13.8	2.00 HP/1.5KW		
13.8.1	6 STG	Each	16510.00
13.8.2	10 STG	Each	16993.00
13.8.3	12 STG	Each	17618.00
13.8.4	14 STG	Each	17897.00
13.8.5	15 STG	Each	18218.00
13.8.6	16 STG	Each	18826.00
13.8.7	18 STG	Each	19698.00
13.8.8	20 STG	Each	19864.00
13.8.9	25 STG	Each	20216.00
13.8.10	30 STG	Each	20719.00
13.8.11	35 STG	Each	21813.00
13.9	3.00 HP/2.2KW		
13.9.1	9 STG	Each	20113.00
13.9.2	15 STG	Each	21530.00
13.9.3	20 STG	Each	21996.00
13.9.4	21 STG	Each	22478.00
13.9.5	23 STG	Each	23860.00
13.9.6	30 STG	Each	24530.00
13.9.7	35 STG	Each	24816.00
13.9.8	40 STG	Each	25773.00
13.9.9	50 STG	Each	26775.00
13.1	5.00 HP/3.7KW		
13.10.1	25 STG	Each	26400.00
13.10.2	30 STG	Each	27910.00

13.10.3	35 STG	Each	28315.00
13.10.4	50 STG	Each	29650.00
13.11	Providing Submersible Pump Set of 150mm dia suitable for bore well and confirming to IS 8034-2000;3Phase, SS Bowl & Impeller with Low volt Motor as per specifications, to work site as per necessary ammendments and instructions of engineer incharge of work. For 3 HP etc. complete.		
13.11.1	3.00 HP - 300 LPM @ 26 m = 5 STG Outlet Dia - 2.50"	Each	23168.00
13.11.2	3.00 HP - 155 LPM @ 42 m = 7 STG Outlet Dia - 2.00"	Each	24334.00
13.11.3	3.00 HP - 135 LPM @ 56 m = 8 STG Outlet Dia - 2.00"	Each	25910.00
13.11.4	3.00 HP - 120 LPM @ 55 m = 9 STG Outlet Dia - 2.00"	Each	26627.00
13.11.5	3.00 HP - 90 LPM @ 66 m = 10 STG Outlet Dia - 2.00"	Each	28113.00
13.12	For 4.00 HP		
13.12.1	4.00 HP - 360 LPM @ 30 m = 6 STG Outlet Dia - 3.00"	Each	22628.00
13.12.2	4.00 HP - 245 LPM @ 42 m = 8 STG Outlet Dia - 2.50"	Each	23319.00
13.12.3	4.00 HP - 155 LPM @ 56 m = 9 STG Outlet Dia - 2.00"	Each	24107.00
13.12.4	4.00 HP - 135 LPM @ 70 m = 5 STG Outlet Dia - 2.00"	Each	24993.00
13.12.5	4.00 HP - 120 LPM @ 77 m = 11 STG Outlet Dia - 2.00"	Each	25610.00
13.12.6	4.00 HP - 90 LPM @ 88 m = 12 STG Outlet Dia - 2.00"	Each	26730.00
13.13	For 5.00 HP		
13.13.1	5.00 HP - 300 LPM @ 39 m = 5 STG Outlet Dia - 2.50"	Each	26310.00
13.13.2	5.00 HP - 245 LPM @ 56 m = 8 STG Outlet Dia - 2.50"	Each	27010.00
13.13.3	5.00 HP - 155 LPM @ 70 m = 10 STG Outlet Dia - 2.00"	Each	27600.00
13.13.4	5.00 HP - 135 LPM @ 84 m = 12 STG Outlet Dia - 2.00"	Each	28837.00
13.13.5	5.00 HP - 120 LPM @ 88 m = 14 STG Outlet Dia - 2.00"	Each	30819.00
13.13.6	5.00 HP - 90 LPM @ 110 m = 15 STG Outlet Dia - 2.00"	Each	32137.00
13.14	For 6.50 HP		
13.14.1	6.50 HP - 360 LPM @ 45 m = 5 STG Outlet Dia - 3.00"	Each	26930.00
13.14.2	6.50 HP - 300 LPM @ 52 m = 6 STG Outlet Dia - 2.50"	Each	27813.00
13.14.3	6.50 HP - 245 LPM @ 70 m = 8 STG Outlet Dia - 2.50"	Each	29930.00
13.14.4	6.50 HP - 155 LPM @ 84 m = 10 STG Outlet Dia - 2.00"	Each	30774.00
13.14.5	6.50 HP - 135 LPM @ 110 m = 12 STG Outlet Dia - 2.00"	Each	32610.00
13.14.6	6.50 HP - 120 LPM @ 112 m = 14 STG Outlet Dia - 2.00"	Each	34910.00
13.14.7	6.50 HP - 90 LPM @ 132 m = 15 STG Outlet Dia - 2.00"	Each	36719.00
13.15	For 7.50 HP		
13.15.1	7.50 HP - 360 LPM @ 60 m = 5 STG Outlet Dia - 3.00"	Each	28116.00
13.15.2	7.50 HP - 300 LPM @ 65 m = 6 STG Outlet Dia - 2.50"	Each	30010.00
13.15.3	7.50 HP - 245 LPM @ 84 m = 8 STG Outlet Dia - 2.50"	Each	32819.00
13.15.4	7.50 HP - 155 LPM @ 112 m = 10 STG Outlet Dia - 2.00"	Each	34213.00
13.15.5	7.50 HP - 135 LPM @ 140 m = 12 STG Outlet Dia - 2.00"	Each	36620.00
13.15.6	7.50 HP - 120 LPM @ 132 m = 14 STG Outlet Dia - 2.00"	Each	38919.00
13.15.7	7.50 HP - 90 LPM @ 165 m = 16 STG Outlet Dia - 2.00"	Each	40810.00
13.16	For 10.00 HP		
13.16.1	10.00 HP - 360 LPM @ 75 m = 5 STG Outlet Dia - 3.00"	Each	31618.00
13.16.2	10.00 HP - 300 LPM @ 91 m = 6 STG Outlet Dia - 2.50"	Each	34110.00
13.16.3	10.00 HP - 245 LPM @ 112 m = 8 STG Outlet Dia - 2.50"	Each	37750.00
13.16.4	10.00 HP - 155 LPM @ 140 m = 10 STG Outlet Dia - 2.00"	Each	40460.00
13.16.5	10.00 HP - 135 LPM @ 168 m = 12 STG Outlet Dia - 2.00"	Each	43930.00
13.16.6	10.00 HP - 120 LPM @ 176 m = 16 STG Outlet Dia - 2.00"	Each	47633.00

13.16.7	10.00 HP - 90 LPM @ 220 m = 20 STG Outlet Dia - 2.00"	Each	54612.00
13.17	For 12.50 HP		
13.17.1	12.50 HP - 360 LPM @ 90 m = 6 STG Outlet Dia - 3.00"	Each	35907.00
13.17.2	12.50 HP - 300 LPM @ 104 m = 8 STG Outlet Dia - 2.50"	Each	39179.00
13.17.3	12.50 HP - 245 LPM @ 140 m = 10 STG Outlet Dia - 2.50"	Each	45701.00
13.17.4	12.50 HP - 155 LPM @ 168 m = 12 STG Outlet Dia - 2.00"	Each	49834.00
13.17.5	12.50 HP - 135 LPM @ 210 m = 15 STG Outlet Dia - 2.00"	Each	55110.00
13.17.6	12.50 HP - 120 LPM @ 220 m = 20 STG Outlet Dia - 2.00"	Each	59916.00
13.17.7	12.50 HP - 90 LPM @ 264 m = 24 STG Outlet Dia - 2.00"	Each	64128.00
13.18	For 15.00 HP		
13.18.1	15.00 HP - 360 LPM @ 120 m = 8 STG Outlet Dia - 3.00"	Each	45774.00
13.18.2	15.00 HP - 300 LPM @ 130 m = 10 STG Outlet Dia - 2.50"	Each	50337.00
13.18.3	15.00 HP - 245 LPM @ 168 m = 12 STG Outlet Dia - 2.50"	Each	55618.00
13.18.4	15.00 HP - 155 LPM @ 210 m = 15 STG Outlet Dia - 2.00"	Each	61827.00
13.18.5	15.00 HP - 135 LPM @ 253 m = 19 STG Outlet Dia - 2.00"	Each	66708.00
13.18.6	15.00 HP - 120 LPM @ 266 m = 23 STG Outlet Dia - 2.00"	Each	69344.00
13.19	For 17.50 HP		
13.19.1	17.50 HP - 360 LPM @ 135 m = 9 STG Outlet Dia - 3.00"	Each	54713.00
13.19.2	17.50 HP - 300 LPM @ 156 m = 12 STG Outlet Dia - 2.50"	Each	58434.00
13.19.3	17.50 HP - 245 LPM @ 196 m = 14 STG Outlet Dia - 2.50"	Each	64619.00
13.19.4	17.50 HP - 155 LPM @ 252 m = 18 STG Outlet Dia - 2.00"	Each	69445.00
13.19.5	17.50 HP - 135 LPM @ 286 m = 22 STG Outlet Dia - 2.00"	Each	73664.00
13.19.6	17.50 HP - 120 LPM @ 308 m = 26 STG Outlet Dia - 2.00"	Each	77963.00
13.2	For 20.00 HP		
13.20.1	20.00 HP - 360 LPM @ 150 m = 10 STG Outlet Dia - 3.00"	Each	63170.00
13.20.2	20.00 HP - 300 LPM @ 169 m = 13 STG Outlet Dia - 2.50"	Each	68310.00
13.20.3	20.00 HP - 245 LPM @ 224 m = 16 STG Outlet Dia - 2.50"	Each	73557.00
13.20.4	20.00 HP - 155 LPM @ 280 m = 20 STG Outlet Dia - 2.00"	Each	78905.00
13.20.5	20.00 HP - 135 LPM @ 350 m = 25 STG Outlet Dia - 2.00"	Each	81090.00
13.21	For 25.00 HP		
13.21.1	25.00 HP - 360 LPM @ 195 m = 13 STG Outlet Dia - 3.00"	Each	58473.00
13.21.2	25.00 HP - 300 LPM @ 221 m = 17 STG Outlet Dia - 2.50"	Each	64313.00
13.21.3	25.00 HP - 245 LPM @ 280 m = 20 STG Outlet Dia - 2.50"	Each	69773.00
13.21.4	25.00 HP - 155 LPM @ 280 m = 20 STG Outlet Dia - 2.00"	Each	75336.00
13.21.5	25.00 HP - 135 LPM @ 420 m = 30 STG Outlet Dia - 2.00"	Each	82619.00
13.22	Supply and delivery at site Brand new best make PVC insulated cable of Flat 3 core (sheathed) of nominal cross sectional area as per IS 694-1990 with ISI Mark and as per its latest amendments.		
13.22.1	1x3x1.5 Sqm	m	65.00
13.22.2	1x3x2.5 Sqm	m	85.00
13.22.3	1x3x4 Sqm	m	135.00
13.22.4	1x3x6 Sqm.	m	185.00
13.22.5	1x3x10 Sqm	m	280.00
13.23	Supply and delivery at site of brand new best make pressure gauge bourdon type as per IS 778/1984 with ISI Mark and as per its latest amendments.		
13.23.1	Size 63 mm	Each	416.00
13.23.2	Size 80 mm	Each	597.00

13.23.3	Size 100 mm	Each	654.00
13.24	Supply and delivery at site of brand new best make gate valve as per IS 778/1984 with ISI Mark and as per its latest amendments		
13.24.1	Size 50 mm	Each	1250.00
13.24.2	Size 65 mm	Each	1450.00
13.24.3	Size 80 mm	Each	1650.00
13.25	Supply and delivery at site of brand new best make non-return valve as per IS 778/1984 with ISI Mark and as per its latest amendments		
13.25.1	Size 50 mm	Each	1250.00
13.25.2	Size 65 mm	Each	1550.00
13.25.3	Size 80 mm	Each	1750.00
13.23	Supply, installing, testing and commissioning COMMON control panel consisting of the following INCOMING: 1 No set of Phase indicating lamps with SFU of suitable rating 1 No, Analog Ammeter, 1 No Analog Voltmeter 1ni with Phase selector switch, Isolating switch OUTGOING for Main Electrical Pump: 1 No. MCB 1 No. DOL of S/D Starter suitable for respective HP 1 No. Electrical Protection Like single Phase preventor, under voltage over Volage, under current over current & dry run protection suitable for the pump described above 1 no Indoor type NOTE: 1) DOL- Direct Online Starter 2) S-D- Star Delta Starter etc. complete.		
13.23.1	Upto 3 HP pumps	Each	6500.00
13.23.2	3 to 6 HP pumps	Each	9550.00
13.23.3	6 to 15 HP pumps	Each	15900.00
13.24	for outdoor		
13.24.1	Upto 3 HP pumps	Each	7500.00
13.24.2	3 to 6 HP pumps	Each	10500.00
13.24.3	6 to 15 HP pumps	Each	17500.00
13.25	Supply and delivery at site best indigenous brand new power capacitor as per IS 2834/1986 with latest amendments with KPTCL authorities and erection, electrification and commissioning of the same at the location of respective pump sets.	kVAR	550.00
13.26	Supply and delivery at site delivery of best indigenous brand new MCB (Miniature Circuit Breakers) of required capacity as per IS 88228/1978 and its latest amendments and with ISI Mark of 6/10/16/20/25/40 Amps with scalable box.	per 3 poles	1150.00
13.27	Supply and delivery of galvanized mild steel tubes of 6mtr standard length heavy duty (C Class) as per IS 1239 (Part-I) 1990 with latest amendments with ISI Mark (one end fitted with Heavy Duty collar and other end fitted with protective cover)		
13.27.1	50 mm	Each	3050.00
13.27.2	65 mm	Each	3575.00
13.27.3	80 mm	Each	4158.00

13.28	Supply and delivery at site 50mm(2") dia heavy duty unplasticized PVC Column pipes with heavy duty collars,rubber profile ring,vibration control profile ring,freezing and turbulence free leak proof EPDM ring with ISI mark with its latest amendments	m	550.00
13.29	Supply and delivery at site 50mm(2") dia heavy duty CI adopter set complete suitable for uPVC Column pipes for Submersible pumpsets	SET	1550.00
13.3	Supply and delivery at site Accessories for Single Phase pumpset like SS Groove Nipples,SS Studs & Nuts,Screw Clips &water proof Insulation Tape etc complete with ISI mark	SET	4500.00
13.31	Supply and delivery at site Stringing of heavy duty Naylone/PP rope with ISI etc complete suitable for Single phase Pumpsets.	m	40.00
13.32	Labour charges for Erection, Electrification and commissioning of Pump sets, including aligning and balancing of all items including supply and erection of two pair of supporting clamps, bore well caps, cable clips and water tight gland cable protectors, bolts, nuts, valve and gauges,tools and equipments etc., involved in the job as per specifications, with necessary tests as per specifications, with testing of as per instructions of engineer incharge of work.	Job	6500.00
13.33	Labour charges for erection of indoor type panel board and meter board units with all necessary materials and labour tools and equipments including cement concrete for foundation/bed etc,complete as per specification, with testing of as per instructions of engineer incharge of work.	Job	1350.00
13.34	Labour charges for erection of outdoor type panel board and meter board units with all necessary materials and labour, tools and equipments including providing cement concrete foundation bed etc., complete as per specification, with testing of as per instructions of engineer incharge of work.	Job	1450.00
13.35	Labour charges for providing connection using insulated sheathed steel wire cable as per IS 1554/ 1988 with latest amendments from KPTCL pole to meter board unit, with all necessary materials ,tools and equipments,as per specificationswith testing of as per instructions of engineer incharge of work. .		
13.35.1	2 x 10 sqmm	m	80.00
13.35.2	3½ x 6 sqmm	m	160.00
13.35.3	3½ x 10 sqmm	m	195.00
13.35.4	3 x 10 sqmm (suitable for over head mains)	m	165.00
13.35.5	3½ x 16 sqmm	m	270.00
13.36	Providing main connection from pole PVC insulated sheathed steel wire cable in new trench as per IS 1554/ 1988 with latest amendments with ISI mark from KPTCL pole to meter board unit.	m	135.00
13.37	Providing main connection from pole PVC insulated sheathed steel wire cable in GI pipe as per IS 1554/ 1988 with latest amendments with ISI mark from KPTCL pole to meter board unit.	m	85.00

13.38	Providing and fixing suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps,bolts,nuts and washers etc. with necessary materials and labour tools and equipments as per instructions of engineer incharge of work.		
13.38.1	3½x6 Sqm	Each	375.00
13.38.2	3½x10 Sqm	Each	450.00
13.38.3	3½x25 Sqm	Each	562.00
13.39	Earthing: Providing and fixing and wiring earth electrode for grounding circuits IC cutouts and other equipments on the meter board in the pit. The pits should be filled up with equal proportion of salt and charcoal 150mm around the pipe to complete depth. The connection from the pipe to the conduits etc. is to established through GI wire of sizes as per clause 7.3.3 of IS 732 using 12mm bolts, nuts, washers and check nuts, the pipe shall have 16 through holes of 12mm dia.	Job	3750.00
13.4	Supply and delivery of Centrifugal pumpset at site brand new best make and with discharge duty confirming to ISI standards and its latest amendments.	Discuss	
13.40.1	2 HP, Size 65x50 Head 13M, Discharge 462 LPM	Each	15610.00
13.40.2	2 HP, Size 50x40 Head 22M, Discharge 186 LPM	Each	16993.00
13.40.3	3 HP, size 50x40 Head 30M, Discharge 198 LPM	Each	18816.00
13.40.4	5 HP, size 80x65 Head 23.50M, Discharge 600 LPM	Each	22310.00
13.40.5	5 HP, size 50x40 Head 46M, Discharge 174 LPM	Each	26417.00
13.40.6	7.5 HP, size 100x100 Head 195M, Discharge 1200 LPM	Each	30520.00
13.40.7	7.5 HP, size 80x65 Head 195M, Discharge 1200 LPM	Each	33619.00
13.40.8	7.5 HP, size 65x50 Head 46M, Discharge 360 LPM	Each	35150.00
13.40.9	10 HP, size 80x65 Head 34.50M, Discharge 840 LPM	Each	37623.00
13.40.10	12.5 HP, size 100x100 Head 25M, Discharge 1560 LPM	Each	38331.00
13.40.11	12.5 HP, size 80x65 Head 40M, Discharge 780 LPM.	Each	46710.00
13.40.12	15 HP, size 80x65 Head 44M, Discharge 900 LPM	Each	53967.00
13.40.13	20 HP, size 100x80 and 42M, Discharge 1320 LPM	Each	65918.00
13.41	Supply and delivery at site brand new best make pressure guage suitable for centrifugal pump confirming to latest IS standards.		
13.41.1	pressure guage 80MM	Each	597.00
13.41.2	pressure guage 100MM	Each	654.00
13.42	Supply and delivery at site brand new best make level guage suitable for centrifugal pump confirming to latest IS standards.	Each	750.00
13.43	Supply and delivery at site brand new best make starter/control panel suitable for following HP centrifugal pump confirming with ISI mark and its latest amendments.		
13.43.1	Upto 7.5 HP centrifugal pump	Each	9500.00
13.43.2	7.5 to 10 HP centrifugal pump	Each	15550.00
13.43.3	10 to 12 HP centrifugal pump	Each	35650.00
13.44	Supply, delivery, erection and commissioning at site lighting distribution board suitable for monoblock centrifugal pump confirming with ISI mark and its latest amendments.	Each	3500.00

13.45	Supply, delivery, erection and commissioning at site ELCB suitable for monoblock centrifugal pump confirming with ISI mark and its latest amendments.	Each	4117.00
13.46	Providing and fixing LT cable of size 4 x 25 Sqm suitable for centrifugal pump sets with ISI mark and its latest amendments.	m	562.00
13.47	Supply and delivery at site brand new best make Foot valve suitable for centrifugal pump upto 10HP confirming with ISI mark and its latest amendments.	Each	1750.00
13.48	Supply and delivery at site brand new best make Foot valve suitable for centrifugal pump above 12.50HP confirming with ISI mark and its latest amendments.	Each	2200.00
13.49	Rewinding of monoblock motor with copper insulaton wire suitable gauge as per ISI specification with all necessary materials and labour,tools and equipments with guarantee period of not less than 12 months		
13.49.1	7.5 HP monobloc motor rewinding	Job	4000.00
13.49.2	10 HP monobloc motor rewinding	Job	6500.00
13.49.3	12.5 HP monobloc motor rewinding	Job	8000.00
13.49.4	15 HP monobloc motor rewinding	Job	12000.00
13.49.5	20 HP monobloc motor rewinding	Job	15000.00
13.49.6	30 HP monobloc motor rewinding	Job	20000.00
13.49.7	40 HP monobloc motor rewinding	Job	22000.00
13.49.8	50 HP monobloc motor rewinding	Job	25000.00
13.49.9	60 HP monobloc motor rewinding	Job	35000.00
13.49.10	80 HP monobloc motor rewinding	Job	38000.00
13.49.11	100HP monobloc motor rewinding	Job	50000.00
13.49.12	120 HP monobloc motor rewinding	Job	62000.00
13.49.13	150 HP monobloc motor rewinding	Job	65000.00
13.49.14	180 HP monobloc motor rewinding	Job	75000.00
13.49.15	200 HP monobloc motor rewinding	Job	85000.00
13.5	Providing Ball bearing as per ISI specifiction with guarantee period of not less than 12 months		
13.50.1	Bearing cost for 7.5 HP	Each	1880.00
13.50.2	Bearing cost for 10HP	Each	2050.00
13.50.3	Bearing cost for 12.5 HP	Each	2050.00
13.50.4	Bearing cost for 15 HP	Each	2550.00
13.50.5	Bearing cost for 20 HP	Each	3080.00
13.50.6	Bearing cost for 30HP	Each	4050.00
13.50.7	Bearing cost for 40 HP	Each	4600.00
13.50.8	Bearing cost for 50 HP	Each	6250.00
13.50.9	Bearing cost for 60 HP	Each	6500.00
13.50.10	Bearing cost for 80 HP	Each	7000.00
13.50.11	Bearing cost for 100 HP	Each	7500.00
13.50.12	Bearing cost for 120 HP	Each	9000.00
13.50.13	Bearing cost for 150 HP	Each	11000.00
13.50.14	Bearing cost for 180 HP	Each	12500.00
13.50.15	Bearing cost for 200 HP	Each	13500.00
13.51	Providing thrust bearing as per ISI specifiction with guarantee period of not less than 12 months		

13.51.1	Bearing cost for 30 HP	Each	6500.00
13.51.2	Bearing cost for 40HP	Each	7500.00
13.51.3	Bearing cost for 50 HP	Each	8500.00
13.51.4	Bearing cost for 60 HP	Each	11000.00
13.51.5	Bearing cost for 80 HP	Each	13500.00
13.51.6	Bearing cost for 100 HP	Each	14000.00
13.51.7	Bearing cost for 120 HP	Each	16500.00
13.51.8	Bearing cost for 150 HP	Each	18000.00
13.51.9	Bearing cost for 180 HP	Each	19500.00
13.51.10	Bearing cost for 200 HP	Each	21000.00
13.52	Providing terminal plate as per ISI specifiction with guarantee period of not less than 12 months		
13.52.1	terminal plate 7.5 to 12.5	Each	450.00
13.52.2	terminal plate 15 to 30	Each	850.00
13.52.3	terminal plate 40 to 60	Each	1050.00
13.52.4	terminal plate 80 to 120	Each	2000.00
13.52.5	terminal plate 150 to 200	Each	3500.00
13.53	Repairs to Vertical turbine pumps as per ISI specifiction with guarantee period of not less than 12 months V- T Pump		
13.53.1	Phosphorous bronze bearing bush for 30 HP to 40 HP	Each	4800.00
13.53.2	Phosphorous bronze bearing bush for 50 HP to 60 HP	Each	5500.00
13.53.3	Phosphorous bronze bearing bush for 80 HP to 100 HP	Each	7500.00
13.53.4	Phosphorous bronze bearing bush for 100 HP to 150 HP	Each	8200.00
13.53.5	Phosphorous bronze bearing bush for 180 HP to 200 HP	Each	9000.00
13.54	Repairs to Vertical turbine pumps as per ISI specifiction with guarantee period of not less than 12 months V-T PUMP STAGE BUSHES		
13.54.1	Phosphorous bronze stage bushes for 30 to 40 HP	Each	4500.00
13.54.2	Phosphorous bronze stage bushes for 50 to 60 HP	Each	5200.00
13.54.3	Phosphorous bronze stage bushes for 80 to 100 HP	Each	7500.00
13.54.4	Phosphorous bronze stage bushes for 100 to 150 HP	Each	8500.00
13.54.5	Phosphorous bronze stage bushes for 180 to 200 HP	Each	9500.00
13.55	Repairs to Vertical turbine pumps as per ISI specifiction with guarantee period of not less than 12 months V-T PUMP IMPELLER AND NECK RING		
13.55.1	IMPELLER AND NECK RING for 30 HP to 40 HP	Each	4800.00
13.55.2	IMPELLER AND NECK RING for 50 HP to 60 HP	Each	5200.00
13.55.3	IMPELLER AND NECK RING for 80 HP to 100 HP	Each	9000.00
13.55.4	IMPELLER AND NECK RING for 100 HP to 150 HP	Each	8000.00
13.55.5	IMPELLER AND NECK RING for 180 HP to 200 HP	Each	9500.00
13.56	Repairs to Vertical turbine pumps as per ISI specifiction with guarantee period of not less than 12 months HORIZONTAL PUMP		
13.56.1	Phosphorous bronze bushes for 7.5 to 15 HP monoblock motor	Each	800.00
13.56.2	Phosphorous bronze bushes for 20 HP monoblock motor	Each	1800.00
13.56.3	Phosphorous bronze bushes for 40HP to 80HP monoblock motor	Each	5800.00

13.56.4	Phosphorous bronze bushes for 100HP to 120HP monoblock motor	Each	6500.00
13.56.5	Phosphorous bronze bushes for 150HP to 200 HP monoblock motor	Each	8000.00
13.57	BEARING FOR HORIZONTAL PUMP		
13.57.1	For 20 HP pump bearing	Each	2500.00
13.57.2	For 30 HP Pump bearing	Each	3500.00
13.57.3	For 40 to 80 HP pump bearing	Each	4500.00
13.57.4	For 60 to 80 HP pump bearing	Each	8400.00
13.57.5	For 100 to 150HP pump bearing	Each	10200.00
13.57.6	For 180 to 200 HP pump bearing	Each	10800.00
13.58	ALL TYPES OF JACK WELL V-T PUMP DETAILS as per ISI specification with guarantee period of not less than 12 months - For Pump dismantling and refitting after attending repairs.		
13.58.1	Up to 60 HP	Each	10000.00
13.58.2	60 HP to 120 HP	Each	12000.00
13.58.3	120 HP to 200 HP	Each	15000.00
13.58.4	200 HP to 250 HP	Each	18000.00
13.59	For Top body bush fitting		
13.59.1	Up to 60 HP	Each	2000.00
13.59.2	60 HP to 120 HP	Each	2500.00
13.59.3	120 HP to 200 HP	Each	2800.00
13.59.4	200 HP to 250 HP	Each	1675.00
13.6	For Bottom body bush fitting		
13.60.1	Up to 60 HP	Each	1450.00
13.60.2	60 HP to 120 HP	Each	1850.00
13.60.3	120 HP to 200 HP	Each	1975.00
13.60.4	200 HP to 250 HP	Each	2075.00
13.61	For Pumps stage body bush fitting Each		
13.61.1	Up to 60 HP	Each	850.00
13.61.2	60 HP to 120 HP	Each	1050.00
13.61.3	120 HP to 200 HP	Each	1125.00
13.61.4	200 HP to 250 HP	Each	1250.00
13.62	For Pump body necking fitting Each		
13.62.1	Up to 60 HP	Each	1200.00
13.62.2	60 HP to 120 HP	Each	1475.00
13.62.3	120 HP to 200 HP	Each	1650.00
13.62.4	200 HP to 250 HP	Each	1850.00
13.63	For Impeller breezing making		
13.63.1	Up to 60 HP	Each	1050.00
13.63.2	60 HP to 120 HP	Each	1175.00
13.63.3	120 HP to 200 HP	Each	1250.00
13.63.4	200 HP to 250 HP	Each	1280.00
13.64	For Pump shaft press throwble		
13.64.1	Up to 60 HP	Each	680.00
13.64.2	60 HP to 120 HP	Each	700.00
13.64.3	120 HP to 200 HP	Each	750.00
13.64.4	200 HP to 250 HP	Each	850.00

13.65	For Pump open & fitting at work shop		
13.65.1	Up to 60 HP	Each	3500.00
13.65.2	60 HP to 120 HP	Each	4000.00
13.65.3	120 HP to 200 HP	Each	4500.00
13.65.4	200 HP to 250 HP	Each	5000.00
13.66	For Connecting bush G.M new making Each		
13.66.1	Up to 60 HP	Each	1875.00
13.66.2	60 HP to 120 HP	Each	1975.00
13.66.3	120 HP to 200 HP	Each	2255.00
13.66.4	200 HP to 250 HP	Each	2575.00
13.67	For Line shaft seat welding making Each		
13.67.1	Up to 60 HP	Each	450.00
13.67.2	60 HP to 120 HP	Each	550.00
13.67.3	120 HP to 200 HP	Each	500.00
13.67.4	200 HP to 250 HP	Each	600.00
13.68	For Oil inside new Fitting & threading Each		
13.68.1	Up to 60 HP	Each	1400.00
13.68.2	60 HP to 120 HP	Each	1600.00
13.68.3	120 HP to 200 HP	Each	1850.00
13.68.4	200 HP to 250 HP	Each	1950.00
13.69	For Balancing spaider rubber guide Each		
13.69.1	Up to 60 HP	Each	1200.00
13.69.2	60 HP to 120 HP	Each	1300.00
13.69.3	120 HP to 200 HP	Each	1450.00
13.69.4	200 HP to 250 HP	Each	1570.00
13.7	For New T.T nipple making		
13.70.1	Up to 60 HP	Each	3050.00
13.70.2	60 HP to 120 HP	Each	3250.00
13.70.3	120 HP to 200 HP	Each	3500.00
13.70.4	200 HP to 250 HP	Each	3800.00
13.71	For Pump gear box body radial bearing		
13.71.1	Up to 60 HP	Each	13575.00
13.71.2	60 HP to 120 HP	Each	16575.00
13.71.3	120 HP to 200 HP	Each	18075.00
13.71.4	200 HP to 250 HP	Each	20750.00
13.72	For Gear box ball bearing		
13.72.1	Up to 60 HP	Each	1500.00
13.72.2	60 HP to 120 HP	Each	1650.00
13.72.3	120 HP to 200 HP	Each	1925.00
13.72.4	200 HP to 250 HP	Each	2075.00
13.73	For Pumping and clean pipe painting		
13.73.1	Up to 60 HP	Each	1675.00
13.73.2	60 HP to 120 HP	Each	1875.00
13.73.3	120 HP to 200 HP	Each	2150.00
13.73.4	200 HP to 250 HP	Each	2250.00
13.74	For Transportation charges both side		
13.74.1	Up to 60 HP	Each	2500.00
13.74.2	60 HP to 120 HP	Each	3500.00

13.74.3	120 HP to 200 HP	Each	4200.00
13.74.4	200 HP to 250 HP	Each	4500.00
13.75	Water Treatment Plants HORIZONTAL PUMP ALL TYPES-For Pump open & refitting after repairs		
13.75.1	Up to 25HP	Each	4900.00
13.75.2	25 HP to 100 HP	Each	5200.00
13.75.3	100 HP to 150 HP	Each	5800.00
13.75.4	150 HP to 250 HP	Each	6200.00
13.76	For Side gland bush		
13.76.1	Up to 25HP	Each	1500.00
13.76.2	25 HP to 100 HP	Each	1800.00
13.76.3	100 HP to 150 HP	Each	2000.00
13.76.4	150 HP to 250 HP	Each	2100.00
13.77	For Impeller breezing and making		
13.77.1	Up to 25HP	Each	1100.00
13.77.2	25 HP to 100 HP	Each	1450.00
13.77.3	100 HP to 150 HP	Each	1600.00
13.77.4	150 HP to 250 HP	Each	1700.00
13.78	For Shaft steel welding and making bearing sheet Each		
13.78.1	Up to 25HP	Each	1100.00
13.78.2	25 HP to 100 HP	Each	1450.00
13.78.3	100 HP to 150 HP	Each	1600.00
13.78.4	150 HP to 250 HP	Each	1850.00
13.79	For Shaft threading making Each		
13.79.1	Up to 25HP	Each	1250.00
13.79.2	25 HP to 100 HP	Each	1650.00
13.79.3	100 HP to 150 HP	Each	1815.00
13.79.4	150 HP to 250 HP	Each	2015.00
13.8	For Joint rope of 1kg		
13.80.1	Up to 25HP	Each	700.00
13.80.2	25 HP to 100 HP	Each	815.00
13.80.3	100 HP to 150 HP	Each	915.00
13.80.4	150 HP to 250 HP	Each	1050.00
13.81	For Pump shaft bend thrown		
13.81.1	Up to 25HP	Each	950.00
13.81.2	25 HP to 100 HP	Each	1150.00
13.81.3	100 HP to 150 HP	Each	1350.00
13.81.4	150 HP to 250 HP	Each	1650.00
13.82	For Transportation		
13.82.1	Up to 25HP	Each	2715.00
13.82.2	25 HP to 100 HP	Each	3050.00
13.82.3	100 HP to 150 HP	Each	3250.00
13.82.4	150 HP to 250 HP	Each	3650.00
13.83	For Pump shaft getting check nut Each		
13.83.1	Up to 25HP	Each	1050.00
13.83.2	25 HP to 100 HP	Each	1050.00
13.83.3	100 HP to 150 HP	Each	1115.00
13.83.4	150 HP to 250 HP	Each	1250.00

13.84	For Both coupling new set		
13.84.1	Up to 25HP	Each	8500.00
13.84.2	25 HP to 100 HP	Each	10200.00
13.84.3	100 HP to 150 HP	Each	11000.00
13.84.4	150 HP to 250 HP	Each	12000.00
13.85	Providing and installing of solar photo voltaic (SPV) water pumping system INDUCTION MOTOR, PUMPSETS AND A SUITABLE INVERTER as per IS specification and instruction of Engineer incharge of work as per IS specification- For 3000 wp/ 3HP submersible with controller		
13.85.1	Total head 30 mtrs and shut off dynamic Head 45 mtr and water out put 96000 ltrs/day.	Each	267000.00
13.85.2	Total head 50 mtrs and shut off dynamic Head 75 mtr and water out put 57000 ltrs/day.	Each	270000.00
13.85.3	Total head 70 mtrs and shut off dynamic Head 100 mtr and water out put 39000 ltrs/day	Each	273000.00
13.86	For 4800 wp/ 5HP submersible with controller		
13.86.1	Total head 50 mtrs and shut off dynamic Head 70 mtr and water out put 91200 ltrs/day.	Each	383000.00
13.86.2	Total head 70 mtrs and shut off dynamic Head 100 mtr and water out put 62400 ltrs/day.	Each	386000.00
13.86.3	Total head 100 mtrs and shut off dynamic Head 150 mtr and water out put 40800 ltrs/day.	Each	389000.00
13.87	For 6750 wp/ 7.5 HP submersible with controller		
13.87.1	Total head 50 mtrs and shut off dynamic Head 70 mtr and water out put 128250 ltrs/day.	Each	565000.00
13.87.2	Total head 70 mtrs and shut off dynamic Head 100 mtr and water out put 87750 ltrs/day.	Each	568000.00
13.87.3	Total head 100 mtrs and shut off dynamic Head 150 mtr and water out put 57375 ltrs/day.	Each	571000.00
13.88	For 9000 wp/ 10HP submersible with controller		
13.88.1	Total head 50 mtrs and shut off dynamic Head 70 mtr and water out put 171000 ltrs/day.	Each	714000.00
13.88.2	Total head 70 mtrs and shut off dynamic Head 100 mtr and water out put 117000 ltrs/day.	Each	717000.00
13.88.3	Total head 100 mtrs and shut off dynamic Head 150 mtr and water out put 76500 ltrs/day.	Each	720000.00

Executive Engineer,
P.H.Division, Patna West, Patna

Bill of Quantity 4 (Variable Cost)

ELECTRICAL WORKS			
19.1	Work of rewinding of HV side upto 100KVA power transformer as specified below: a. Switch off Power supply of transformer Isolator feeder and discharge with discharge rod. b. Disconnect the input and output cables form 100 Kva transformer. c. Drain old transformer oil from transformers, and flush the winding jet force with good BDV valve transformer oil. d. Manually lead up to crane rEach and load to truck to shift factory. e. After rewinding the burnt out HV windings of transformer and replace the gaskets carbonized bolts and Nuts check the necessary tests. f. Fill the new transformer oil (BWSSB Supply) & replace the silica gel breather. g. Re install transformer after received form factory. h. Switch ON power supply and check the transformer, No load and on load.	Job	75178.00
19.2	Work of repair and rewinding of LV side upto 100 KVA power transformer as specified below: a. Drain out the contaminated transit oil completely from the reactor; flush the windings of the transformer with jet force of good BDV value transit oil. b. Removing the burnt out windings from all the three phases of the transformer provide new windings of LV side in all three phases. c. Clean the terminal connection with carbon tetra chloride solution. d. Fill the new transit oil (departmental supply) replace the bolts, nuts, washers and provide gasket etc., wherever necessary provide silica gel breather. e. Fix the transformer in the bet and charge the transformer and observe Performance "ON LOAD" and ensure for trueness of the transformer performance.	Job	70641.00
19.3	Work of servicing, leak arresting and oil filtration upto 400 KVA power transformers as specified below: a. Removing cable connection of transformer after isolating the supply dismantling the cable connection b. Replacing the existing leakage L.V side H.T Busing Gasket, oil seal, bots and nuts etc. of the power transformer. c. Replacing the existing non-functioned damaged Dehydrating Breather by a new breather with new silica gel for the above transformer d. Arresting oil leak from exclusive vent, neutral bushing of valves, flanges, is drying arresting the leakage for L.V and HV side of power transformer and refilling of the transformer oil including cost of labour and necessary repaired materials. e. Repaint the Transformer using light grey epoxy paint of 2 coated as original. f. Filtering of oil in the transformer at the transformer center by hot process using stream line filter such that the dielectric strength of oil in the transformer conforms to ISI specification. g. Painting of entire structure of transformer yard including fencing using silver paint.	Job	69540.00
19.4	Work of repairs/servicing and overhauling of on load tap changer (OLTC) of upto 66KV/6.6KV 8MVA transformer as specified below: A). Removing the supply connection of diverter switch draining out the diluted oil of OLTC chamber, removing the diverter switch one by one carefully by using tripped and chain pulley block. Dismantling the moving and fixing contacts and cleaning with good quality cleaning agents to remove the carbon deposit, replacing the worn-out compression spring micros switch tap changing contacts, of worn gear assembly, replacing of worn out bearing oil seals, 'O' rings, gaskets, etc., in order to ensure fiction from operations of tap changing and oil leakage from diverter switch mechanism housing resistance by new one which will be supplied by departmentally, cleaning the diverter switch housing chamber to remove the carbon deposit lowering the serviced diverter switch inside the housing chamber and aligning the centre shaft by using lock nut, bolt and washers tightening of resistor conductors carefully without causing damaged to the nearby the contact refilling the good quality high BDV value insulation oil to the diverter switch housing chamber (oil will be supplied by the department adjusting the micro switch NO NC contacts and lifting liver for its proper function and covering the chamber by fixing the lid on the top and cleaning the oil gauge indicator with soap water, after drying refix the same testing the operation of tap changing system by giving upto 440 Volts supply from tap position 1 to 25 after satisfactory charging over of all 25 taps in forward and reverse direction.	Job	46977.00
19.5	Work of repairs/servicing and overhauling of on load tap changer (OLTC) of upto 66KV/6.6KV 8MVA transformer as specified below: Painting of transformer including platform CTS etc., with one coat of red oxide to the rusted portion of transformer, 2 coats of M/s grey enamel paint, RYB color paint to CT caps for identification etc., Rates should coat inclusive of cleaning of the transformer of all sizes.	Job	28257.00

19.6	Work of repairing of diverter switch and replacement of resistance upto 66KV/6.6KV 8MVA Transformer as specified below: Removing the supply connection of diverter switch draining out the diluted oil of OLTC chamber, removing the diverter switch one by one carefully by using tripped and chain pulley block. Dismantling the diverter switch unit, removing the worn out resistance from the diverter switch Supply and fixing of new resistance of same capacity as original to the diverter switch without disturbing the other running equipment, cleaning the diverter switch housing chamber to remove the carbon deposit, lowering the repaired diverter switch inside the housing chamber and aligning the centre shaft by using link nut, bolt and washers tightening of resistor conductors carefully without causing damaged to the nearby the contact refilling the good quality high BDV value insulation oil to the diverter switch housing chamber (oil will be supplied by the department) adjusting the micro switch NO, NC contacts and lifting lever for its proper function and covering the chamber by fixing the lid on the top. Testing the operation of tap changing system by giving upto 440 Volts supply from tap position 1 to 25 after satisfactory charging over all 25 taps in forward and reverse direction.	Job	75152.00
19.7	Works of Supply fixing and wiring of tap position indicator to RTCC panel transformer as detailed: Tap position indicator Aux supply: -110V or 230V AC +15% 50HZ, Resistance: - 1 Kilo ohms per step, Tele- transmitter: - 3Wire connection 1 to 99 position, Display: -2Digit 7 segment LED, Accuracy -Tolerance +2%, Type of mounting: -Panel mounting 90x90x70mm, Dimension: -96mm x 96mm x 70mm, Accuracy: -Class 11	Each	20167.00
19.8	Works of Supply fixing and wiring of digital kilowatt meter to RTCC panel upto 5MVA transformer as detailed: Aux supply -606KV -110V OR 230V AC, Range - 0 to 9 KW, Burden - 4VA, Display -3.1/2 digital for nominal full scale, Voltage input -110V from P.T, Mounting - Panel type, Cut out size - 90x90mm, Ambient Temp -0.50degree C, Model - DM 3257 ACC.CL:1.0, Accuracy -Class -1.0	Each	17385.00
19.9	Work of supply, erection and commissioning of indoor upto 250 Amps distribution panel as specified below: Supply, erection and commissioning of Indoor type upto 250 Amps MCCB distribution panel with outgoing copper bus bar, having, accessories like MCCB, incoming and outgoing entry bus bar, ammeter volt meter, ammeter selector switch, LED indication lamp, and with suitable M.S box with required stand unit set. Suitable for Indoor type complete as per latest IS standard specification.	Each	68498.00
19.1	Work of supply and fixing of 85W, LED high bay fitting to top of panel board, soft starter and breaker as specified below: Providing High pressure high bay 85W LED fitting die cast aluminum canopy with aluminum housing to control gear, finished stove enamel gray glassy white canopy interior with a pair of anodized aluminum reflectors clear acrylic bowl, gasket lining for dip insect resistance duly wired with single or multi LEDs.	Each	18560.00
19.11	Work of supply and fixing of isolator panel and capacitor panel fuses to motor. as specified below: A) Removing the damaged burnt out fuses upto 63Amps 7.2 /11 K.V isolator fuses from isolator panel for motor cleaning the fuse carriers with CTC and apply petroleum jelly for fuse contacts and rectify the faulty in the isolator panel. Supply and fixing new fuses upto 7.2/11 K.V isolator fuses to the fuse carrier and checking its working. B) Removing the damaged burnt out fuses upto 30Amps 7.2/11 K.V capacitor fuses from capacitor panel of motor cleaning the fuse carriers with CTC and apply petroleum jelly for fuse contacts and rectify the faulty in the isolator panel. Supply and fixing new fuses upto 7.2/11 K.V capacitor fuse to the fuse carrier and checking its working	Each	15062.00
19.12	Work of repairing and servicing of capacitor isolator panel of motors as specified below: A) Dismantling the closing and tripping mechanism, removing the broken, closing lever, cylinder, moving contact tips, and service the entire mechanism, Providing and fixing the new closing lever full set cylinder, moving contact tips, etc., check the electrical circuit,	Job	34231.00

	replacement of burnt out LED Indication lamps etc., finally the panel should be tested for its running satisfactorily. B) Draining out contaminated breakdown oil completely from reactors, flushing of windings in the reactors with jet force of good BDV. Value transformer oil, cleaning of windings and flushing of carbon deposition over the windings in all the three phase of reactors, removing the terminals and cleaning the terminal bushings with carbon tetrachloride solution, checking of resistance of the windings of the correct value in all the three phases, filling the new oil with break down voltage value.		
19.13	<p>Work of replacement of faulty control components and modification and rewiring of soft starter panel upto 1250KW/6.6KV motor as specified below: a. Disconnecting the power cables and control cables. b. Removal of faulty control components and cable disconnections. c. Supply and fixing Auxiliary contractors, upto 110Volt DC coil Supply with 2 NO, 2NC. d. Supply and fixing of Electronic Timers, 24 Volt AC Range 0 to 30 seconds. e. Supply and fixing of MCBs, 2 pole, 10A. f. Supply and fixing of suitable color LED indication Bulbs and reset Push Buttons Red in color. g. Supply and fixing of temperature Scanner. Along with RTDs</p> <p>3.5 Mtr Each. h. The necessary tapping/drilling work has to be done for fixing the above components and rewiring to be done etc., i. Testing the soft starter with above supplied components. j. Commissioning the soft starter and handing over the system to department.</p>	Job	69031.00
19.14	<p>Work of supply and fixing of 40 amps star delta panel Boards upto 15Hp backwash pump motor as specified below: a. Supply and fixing of new upto 15 Hp star delta starter panel board for back wash motor with the following materials. b. Power connector upto 40 A. c. On delay, off delay automatic timer. d. Over current relay upto 20-60 amps e. Upto 10 amps MCB 3 Pole for control circuit. f. Contactor 2 No+ 2 Nc upto 25 amps g. Single phase preventer. h. On and off push button switch.</p> <p>i. LED indication lamps RYB motor on, off and trip. j. 0 to 600 volts meter upto 96/96 mm. k. Amps meter C.T Ratio upto 100/5A. l. Current Transformer for metering upto 100/5A. m. upto 30mmx10mm Electronic Grad Aluminum bus bar for RYB phases. n. Internal main wiring using upto 95 sq.mm Copper wire. o. Volts and ammeter selector switch.</p>	Job	33727.00
19.15	Work of overhauling and servicing and repairing of southern switch gear make breakers of motor as specified below: Lowering the breaker from the panel after isolating the supply, draw out the breaker truck from the panel, checking the fixed and moving contacts. Removing the burnt out parts from the breaker. Supply and fixing of new closing assembly, rose contact, copper poker, banana link, lifting awsembly. Checking the mechanical parts such as moving cam, lifting bar assembly, tripping mechanism and closing mechanism of the breaker and servicing the entire breaker. Check the trip and closing coil of the breaker replace the same if required. Replace the oil (Supply by departmentally). The breaker has to be checked in test position after complete servicing for proper operation and satisfaction.	Job	75122.00
19.16	Work of repair and servicing of LOCB breakers of motor feeders and spare breakers as specified below: MECHANICAL PORTION: Removing the complete unit breaker mechanism from the breaker without damaging the arc chamber, wiring to be recorded before removing the breaker mechanism. Dismantling the tension spring latching unit etc., inspecting the alignment and rectify the fault in breakers for proper closing and opening cleaning all moving contact finger contact and fixed contact by C.T.C replace the oil by new oil (Oil will be supplied by the departments). ELECTRICAL PORTION: Checking of entire electrical operation of the breaker panel checking ON & OFF circuit, change over scheme replacement of closing coil, tripping coil, closing contactor wiring should be checked as per drawing, damaged wire should be replaced by new one, all the required spare will be supplied by departmentally. The work should be carried out without disturbing other running equipment.	Job	18325.00

19.17	Work of repair, overhauling & servicing of southern switch gear breakers of capacitor bank as specified below: Lowering the breaker from the panel after isolating the supply, draw out the breaker truck from the panel, checking the fixed and moving contacts and replace with new contacts wherever necessary. Repair the worn out rose contacts and poker tips. Checking the mechanical parts such as moving cam, lifting bar assembly, tripping mechanism and closing mechanism of the breaker and servicing. Check the trip and closing coil of the breaker. The breaker has to be checked in test position after complete servicing for proper operation and satisfaction	Job	33727.00
19.18	Working of repairing and overhauling of upto 800amps as specified below: Complete dismantling of breaker units of upto 800 amps breaker of filter house taking out the fixed and moving contacts of all the poles, cleaning and putting back with necessary lubrication and checking of complete electrical circuit for proper closing and tripping including necessary replacement of 'V' bar contact, finger contact, contact tips, arching contact, tripping and closing coil, back housing set, with female contacts, panel fixed contact set including hylem sheet with contacts, gasket and dash pit oil etc., Testing of tripping and closing mechanism in order to ensure easy of operation of the breaker and commissioning of the system as per the standard practice without interruption of power supply.	Job	67859.00
19.19	Work of repairing and overhauling of upto 400 amps LT breaker bus coupler as specified below: Complete dismantling of breaker units of 400 amps, breaker of compressor room taking out the fixed and moving contacts of al limbs, cleaning and putting back with necessary lubrication and checking of complete electrical circuit for proper closing and tripping including necessary replacement of V bar contact finger contact, contact tips of arcing, contacts of tripping and closing coil, back housing set, gasket and dash pot oil etc.. Testing and tripping and closing mechanism in order to ensure easy operation of the breaker and commissioning of the system as per the standard practice without interruption of power supply.	Job	67859.00
19.2	Work of repair and rewinding of reactor provided to isolator of motor as specified below: A) Drain out the contaminated transit oil completely form the reactor; flush the windings of the reactor with jet force of good BDV value transit oil. B) Removing the burnt out from all the three phased of the reactor provide new windings in all three phases. C) Clean the terminal connection with carbon tetra chloride solution. D) Fill the new transit oil (departmental supply) replace the bolts, nuts, washers and provide gasket etc., wherever necessary provide silica jel breather. E) Fix the reactor in the isolator panel and charge the capacitor bank and observe performance "ON LOAD" and ensure for trueness of the reactor performance.	Job	68591.00
19.21	Work of overhauling and servicing upto 1250KW, 6.6KV, motor as specified below: a. Disconnect the HT/LT, Cable and record motor details take out the motor from bed b. Check alignment and record details c. Check IR values before removing motor. d. De-couple the motor from pump & taken out from removing anchor bolts e. Dismantling motor end shields f. Removing rotor from stator, checking IR values of stator cleaning stator with thinner, and petrol, g. Removing the moisture of stator by using heaters(oven) h. Revarnishing of stator & rotor baking in oven, applying bectol red on windings on both stator & rotor i. Greasing of bearings, j. Assembling of motor k. Checking IR values of motor and recording the same l. Alignment of motors with pump, and commissioning the motor on No-Load and load trial.	Job	68006.00
19.22	Cutting of the damaged portion of upto 3x150sq.mm XLPE cable Providing one number of indoor termination kit upto 3x150 sq.mm HT XLPE cable and attending the termination work upto 3x150sq.mm HT cable of Neutral side cable by using upto 150sq.mm copper lugs, self adhesive HT tape, crimping tool, heat shrinkable termination kit and required bolts and nuts etc., and Commissioning the motor on load. The work including the cost of materials, labour charges, taxes and the rebate towards the cost of released materials etc.	Job	11574.00
19.23	Supply and brazing of motor end lead cable by using H.T Copper lugs, brazing materials, gas, soldering past, etc as original for all the three phases for motor.	Job	33727.00

19.24	Removing the burnt out supporting insulator from motor of main side Supply and fixing of new insulator to same place as original.	Job	17406.00
19.25	Removing the burnt out copper flats form all the 3 phases of neutral side motor. Providing. copper flats copper flats to neutral side connection. Re connect the motor end cable & cable connection using bolts nuts and washers etc as original	Job	16577.00
19.26	Removing & refixing the pump after repairing of existing horizontal mounting/ monoblock pump with following spares, etc. including aligning of pump with reference to motor & running the pump on load.		
19.26.1	Repairs of Booster Pumps Upto 5HP	Job	3042.00
19.26.2	Repairs of Booster Pumps 5 HP to 10 HP	Job	3682.00
19.26.3	Repairs of Booster Pumps 10 HP to 15 HP	Job	5028.00
19.26.4	Repairs of Booster Pumps 15 HP to 20 HP	Job	15739.00
19.26.5	Repairs of Booster Pumps 20 HP to 30 HP	Job	20811.00
19.26.6	Repairs of Booster Pumps 30 HP to 40 HP	Job	25823.00
19.26.7	Repairs of Booster Pumps 40 HP to 50 HP	Job	33218.00
19.26.8	Repairs of Booster Pumps 50 HP to 60 HP	Job	38077.00
19.26.9	Repairs of Booster Pumps 60 HP to 75 HP	Job	48193.00
19.26.10	Repairs of Booster Pumps 75 HP to 100 HP	Job	62638.00
19.26.11	Repairs of Booster Pumps 100 HP to 150 HP	Job	71454.00
19.26.12	Repairs of Booster Pumps 150 HP to 200 HP	Job	85912.00
19.26.13	Repairs of Booster Pumps 200 HP to 250 HP	Job	99230.00
19.26.14	Repairs of Booster Pumps 250 HP to 300 HP	Job	112712.00
19.26.15	Repairs of Booster Pumps 300 HP to 350 HP	Job	126539.00
19.26.16	Repairs of Booster Pumps 350 HP to 400 HP	Job	137405.00
19.27	Removing and refixing the 230/415 v 50 hz I phase/III phase suitable capacity suitable speed horizontal foot mounted screen protected drip proof continous rated monoblock/squrrel cage induction motor with F class insulation, class H super enamelled copper wire with as per standards including transportation charges etc.,		
19.27.1	Repairs of Booster Motors Upto 5HP	Job	4949.00
19.27.2	Repairs of Booster Motors 5 HP to 10 HP	Job	6277.00
19.27.3	Repairs of Booster Motors 10 HP to 15 HP	Job	9705.00
19.27.4	Repairs of Booster Motors 15 HP to 20 HP	Job	16836.00
19.27.5	Repairs of Booster Motors 20 HP to 30 HP	Job	25747.00
19.27.6	Repairs of Booster Motors 30 HP to 40 HP	Job	30907.00
19.27.7	Repairs of Booster Motors 40 HP to 50 HP	Job	36915.00
19.27.8	Repairs of Booster Motors 50 HP to 60 HP	Job	44108.00
19.27.9	Repairs of Booster Motors 60 HP to 75 HP	Job	54262.00
19.27.10	Repairs of Booster Motors 75 HP to 100 HP	Job	70287.00
19.27.11	Repairs of Booster Motors 100 HP to 150 HP	Job	96069.00
19.27.12	Repairs of Booster Motors 150 HP to 200 HP	Job	117231.00
19.27.13	Repairs of Booster Motors 200 HP to 250 HP	Job	142362.00
19.27.14	Repairs of Booster Motors 250 HP to 300 HP	Job	164270.00
19.27.15	Repairs of Booster Motors 300 HP to 350 HP	Job	192293.00
19.27.16	Repairs of Booster Motors 350 HP to 400 HP	Job	224229.00

Executive Engineer,
P.H.Division, Patna West, Patna

(Sub Estimate - 1A)

CONSTRUCTION OF 150MM X 100MM DIA & 125M DEEP TUBE WELL

S.No.	Description	Qty.	Unit	Rate	Amount
1	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 150 metre depth below ground level. (All types of soil)				
24.1.1.2	(a) 350mm dia bore from G.L. to 30.0M	30.0 M	P/M	Rs.532.40	Rs.15,972.00
24.1.1.1	(b) 300mm dia bore from 30.0 m to 60.0M	30.0 M	P/M	Rs.486.80	Rs.14,604.00
	(c) 300mm dia bore from 60M to 90.0M	30.0 M	P/M	Rs.486.80	Rs.14,604.00
24.2.1	(d) 300mm dia bore from 90.0M to 150.0M	35.0 M	P/M	Rs.567.90	Rs.19,876.50
2A	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC (UPVC) medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings &				
24.3.2	(a) 150 mm nominal size dia	30.0 M	P/M	Rs.660.10	Rs.19,803.00
24.3.1	(b) 100 mm nominal size dia	60.0 M	P/M	Rs.546.10	Rs.32,766.00
2B	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC (UPVC) medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
24.4.1	100 mm nominal size dia	30.0 M	P/M	Rs.573.10	Rs.17,193.00
3	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.				
24.13.2	(a) 150 mm dia well cap	1 No.	Each	Rs.210.70	Rs.210.70
24.14.2	(b) 150 mm dia M.S. Clamp 1.6 M long (one Pair)	1 No.	Each	Rs.1,531.40	Rs.1,531.40
	(c) 150 mm dia center guide	4 Nos.	Each	Rs.150.00	Rs.600.00
Rate as per cost index @15.06%	(d) 100 mm dia center guide	6 Nos.	Each	Rs.100.00	Rs.600.00
	(e) 150 mm x 100 mm dia 6mm wall thickness MS reducer	1 No.	Each	Rs.500.00	Rs.500.00
24.15.1	(f) 100mm dia & 6mm thick M.S. well shoe plug	1 No.	Each	Rs.228.30	Rs.228.30
4a	Gravel packing in tubewell construction in accordance with IS:4097,including				
24.8	providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	9.0 M ³	P/M ³	Rs.1,343.20	Rs.12,088.80
4b	Carriage of Pea Gravel from Dalbhumigarh to Patna (taken av distance 395+ 5km.) {8/5 (395 x 11.2+ 5 X 27.2) + 195.1}*1.01	9.0 M ³	P/M ³	Rs.10,062.31	Rs.90,560.79
5	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, disinfection of tubewell, all complete,including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	24 Hrs.	P/H	Rs.916.80	Rs.22,003.20
6	Rate as per cost index @15.06% Transportation of drilling plants, developing equipments & all other required tools and M/c by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I	1 No.	Each	Rs.9,200.00	Rs.9,200.00
7	Rate as per cost index @15.06% Supplying all materials and labours for arrangement for additional water required during the drilling period for 70 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 No.	Each	Rs.7,000.00	Rs.7,000.00
TOTAL					Rs.279,341.69
say					Rs.279,342.00

Executive Engineer,
P.H.Division, Patna West, Patna

(Sub Estimate - 1B)

CONSTRUCTION OF 150MM DIA & 90 M DEEP DRILLED TUBE WELL.						
S.No.	Description	Qty.		Unit	Rate	Amount
1	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level. Rocky strata including Boulders).					
24.1.2.1	(b) 300mm dia bore from 00.0 m to 60.0M	90.0	M	P/M	Rs.1,118.60	Rs.100,674.00
2	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC (UPVC) medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.					
24.3.2	(a) 150 mm nominal size dia	36.0	M	P/M	Rs.660.10	Rs.23,763.60
3	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.					
24.13.2	(a) 150 mm dia well cap	1	No.	Each	Rs.210.70	Rs.210.70
24.14.2	(b) 150 mm dia M.S. Clamp 1.6 M long (one Pair)	1	No.	Each	Rs.1,531.40	Rs.1,531.40
5 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, disinfection of tubewell, all complete,including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	24	Hrs.	Each	Rs.916.80	Rs.22,003.20
6	Transportation of drilling plants, developing equipments & all other required tools and M/c by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1	No.	Each	Rs.12,600.00	Rs.12,600.00
7	Supplying all materials and labours for arrangement for additional water required during the drilling period for 70 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1	No.	Each	Rs.10,200.00	Rs.10,200.00
	TOTAL					Rs.170,982.90
	Say					Rs.170,983.00

JE

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

(Sub Estimate - 2)

Chamber for TW

Supplying materials, labours and constructing chamber of following dimension having 250mm thick wall in C.M. (1:4) in cluding 12mm C.P. (1:3) with punning inside, R.C.C. cover slab with C.I. Surface box , 20mm dia foot rest at 150mm interval 10mm dia lifting ring etc. all complete.

<u>SIZE</u>	1.00 M	x	1.00 M	x	0.75 M deep
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S.O.R. No.	Particulars	No.	L	W	H	Qty.		Unit	Rate	Amount
<u>1</u>	Earth work in excavation	1	1.75	1.75	1.0	3.063	M ³	P/M ³	Rs.360.70	Rs.1,104.64
2.8										
2 2.28	Sand filling	1	1.75	1.75	0.075	0.230	M ³	P/M ³	Rs.287.30	Rs.65.99
<u>3</u>	Brick flat soling	1	1.75	1.75		3.063	M ²	P/M ²	Rs.283.30	Rs.867.61
11.72										
<u>4</u>	P.C.C. (1:2:4) in foundation	1	1.75	1.75	0.10	0.306	M ³			
4.1.3										
						0.306	M ³	P/M ³	Rs.3,998.10	Rs.1,224.42
<u>5</u>	B/Work in (1:4) C.M.	2	2.50	0.25	0.75	0.938	M ³	P/M ³	Rs.5,017.90	Rs.4,704.28
6.1.12/1										
<u>6</u>	R.C.C. Cover slab(1:1.5:3)	1	1.50	1.50	0.15	0.338	M ³	P/M ³	Rs.5,670.00	Rs.1,913.63
5.2.2 & 5.9.3										
	shuttering	2	1.50	1.50	0.15	0.90	M ²	P/M ²	Rs.437.50	Rs.393.75
<u>7</u>	C.P. (1:3) with 5% Cico & neat cement									
13.17.1	Internal face	2	1.00	1.00	1.00	4.00	M ²			
	Bed surface	1	1.00	1.00		1.00	M ²			
+13.36.1						5.00	M ²	P/M ²	Rs.203.60	Rs.1,018.00
<u>8</u>	C.P. (1:4) out side of wall	2	1.50	1.50	0.75	0.9	M ²	P/M ²	Rs.152.90	Rs.137.61
. 13.11.2										
<u>9</u>	8mm dia T.S. Rod									
5.22.7A										
		0.338	M ³ x	70	Kg/ M3	23.625	Kg.	P/Kg	Rs.94.50	Rs.2,232.56
<u>10</u>	Lifting Ring of 10mm dia Rod					4	No.	Each	Rs.45.00	Rs.180.00
									Total	Rs.13,842.49
<u>11</u>	Carriage of materials= 5% of cost of Items.									Rs.692.12
	Total									Rs.14,534.61
	Say									Rs.14,535.00

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 3a						
Estimate for supply, installation & commissioning of single phase 3 H.P submersible motor pump set with all accessories including extension of L.T. line from nearest source up-to pumping station.						
Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3	4	5	6	
1	Supply Installation, commissioning and testing of single phase 3 H.P. submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I.	1	(one) job	p/job	Rs.50,250.00	Rs.50,250.00
	(i) 50 mm dia x 3 mtrs long medium class G.I column pipe both end thread and one end socketed- 6(six)nos					
	(ii) 1x3x2.5 mm ² flat copper conductor submersible cable -40 (forty) mtrs.					
	(iii) 50 mm dia union socket- 1(one) no.					
	(iv) 65 mm dia x 250 mm long G.I. nipple- 1 (one) no.					
	(v) 50 mm dia G.I Elbow—1(One) no.					
	(vi) 50 mm dia M.S. clamps—2(Two) Pairs.					
	(vii) 50 mmx 250 mm long G.I nipple- 1(One) no.					
	(viii) Tube well cap for T/Well – 1(one) no.					
	(ix) 50 mm dia x 65 mm dia reducer socket –1(one) no.					
2	Supply Installation, commissioning and testing of floor mounted outdoor type L.T feeder pillar single phase starter controll pannel operated on 220 V, 3 phase , 50 c/s for 3 HP Submersible pump set made of MS sheet (minimum 2 mm thick) duly spray power coated painting with following accessories made of M.S sheet (minimum 2mm thick) duly spray powder coated painting with following accessories					
	(i) 90-220 V range single phase7. 5 KVA automatic voltage stabilizer make-Sen & Pandit/ Vertex/ISI marked If any. 1 No.					
	(ii) Suitable single phase starter control panel for above motor of BCH /L&Tmake – 1(one) no.	1	(one) job	p/job	Rs.49,000.00	Rs.49,000.00
3	Supplying & fitting 2.5 mm ² copper service cable from power point from nearest source up-to pumping station.	20	mtrs	P/Mt	Rs.130.00	Rs.2,600.00
4	Providing all materials and labour required for doing earthing station with G.I earth pipe of 40 mm dia x 4.5 mtrs 20fts. long G.I pipe including accessories excavation of earth , providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.with salt, charcoal,etc.as per IE & IS specification.	1	job	p/job	Rs.3,150.00	Rs.3,150.00
					Total Rs.	Rs.105,000.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 3b						
Estimate for supply, installation & commissioning of single phase 2 H.P submersible motor pump set with all accessories including extension of L.T. line from nearest source up-to pumping station.						
Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3		4	5	6
1	Supply Installation, commissioning and testing of single phase 2 H.P. submersible pump set having discharging capacity 2.25 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I.	1	(one) job	p/job	Rs.30,500.00	Rs.30,500.00
	(i) 50 mm dia x 3 mtrs long medium class G.I column pipe both end thread and one end socketed- 6(six)nos					
	(ii) 1x3x2.5 mm ² flat copper conductor submersible cable -40 (forty) mtrs.					
	(iii) 50 mm dia union socket- 1(one) no.					
	(iv) 65 mm dia x 250 mm long G.I. nipple- 1 (one) no.					
	(v) 50 mm dia G.I Elbow—1(One) no.					
	(vi) 50 mm dia M.S. clamps—2(Two) Pairs.					
	(vii) 50 mmx 250 mm long G.I nipple- 1(One) no.					
	(viii) Tube well cap for T/Well – 1(one) no.					
	(ix) 50 mm dia x 65 mm dia reducer socket –1(one) no.					
2	Supply Installation, commissioning and testing of floor mounted outdoor type L.T feeder pillar single phase starter controll pannel operated on 220 V, 3 phase , 50 c/s for 3 HP Submersible pump set made of MS sheet (minimum 2 mm thick) duly spray power coated painting with following accessories made of M.S sheet (minimum 2mm thick) duly spray powder coated painting with following accessories					
	(i) 90-220 V range single phase7. 5 KVA automatic voltage stabilizer make-Sen & Pandit/ Vertex/ISI marked If any. 1 No.					
	(ii) Suitable single phase starter control panel for above motor of BCH /L&Tmake – 1(one) no.	1	(one) job	p/job	Rs.28,500.00	Rs.28,500.00
3	Supplying & fitting 2.5 mm ² copper service cable from power point from nearest source up-to pumping station.	20	mtrs	P/Mt	Rs.130.00	Rs.2,600.00
4	Providing all materials and labour required for doing earthing station with G.I earth pipe of 40 mm dia x 4.5 mtrs 20fts. long G.I pipe including accessories excavation of earth , providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.with salt, charcoal,etc.as per IE & IS specification.	1	job	p/job	Rs.3,150.00	Rs.3,150.00
					Total Rs.	Rs.64,750.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate-3C

Name of Work:- Supplying, Installation, commissioning & testing of 5 HP 3 phase submersible pump set with all accessories including light wiring, power wiring and extension of over head L.T. line from nearest point of electric line up to pump chamber etc. at electric based WIMC Scheme

SI No.	Particulars	Quantity		unit	rate	Amount
1	2	3	4	5	6	7
A	Submersible ump set and other accessories					
1	Supply of 3 phase 50 C/sec 2900 rpm submersible pump set with following accessorels including laoding unloading including transportation of the pump set to destination with all required labour etc.	1	set	p/set	102500	102500
	(i) Submersible pump set having discharging capacity 11 m3/hr at a total head of 65 meter (approx) of KSB or as per departmental approved make-1 set					
	(ii) 50 mm dia x 3 mtrs long medium class GI column ppe both end thread and one end socketed 36 meter (each length of 3 meter)					
	(iii) (1x3x2.5 mm² flat copper conductor submersible cable 90 (Fifty) meter					
	(iv) 50 mm dia M.S. clamps with nut bulls & washer 1/2"x2.5 "two pair					
	(v) 50 mm dia ISI marked heavy duty GM wheel valve-1 No.					
	(vi) 50 dia Si marked heavy duty GM relux valve-1 No.					
	(vii) Fully automatic alr break control pannel stater consisting 17.5 HP DOL starter having contator with coll voltage 380 +-10%V & suitable thermal relay range-1 No.					
	(viii) Safety steel wire rope 4 mm2 size-58 meter					
	(ix) Pressure gauge (0 to 7.5 kg/cm2) 11 nos					
B	Service Cable, Pwer wiring and Light wiring					
3	Kit-kat Supplying & fixing of 63 Amp kit kat fuse-3 nos Eted on a appropriate wooden board including drilling holes in board, making connection etc. as required make anchonhavelis/ISI marked if any	3	No.	Each	374.00	1122.00
4	Service Cable & Power wining Supplying & fitting of 2x6 mm2 X 3 Core copper cable for service cable & power wiring from power point outside the pump chamber through Kit-kal to main switch to voltage stabilizer to starter control panel and through all electrical equipment	60	M	P/M	304.00	18240.00
5	Light wiring-Wiring for light point with 1.5 mm2 FR PVC insulated copper conductor signal core cable in surface/frocessed PVC conduct with plano type switch, phenolic taminated sheet, suitable size PVC/GI box etc as required	3	pt	each point	681.00	2043.00
6	Supplying and fixing 2 pin, 6 amps ceiling rose on junction boxPVC box including connection etc. os requirede	1	No.	each	42	42.00
7	Supplying and fixing Batten/angle holder (One outside the pump chamber and one on junction box/PVC box inside the pump chamber)	2	No.	each	46	92.00
8	LED Bulb Supplying and fitting 9 W LED bulb inside the paump chamber make Syska/Philips/Havells/Bajaj/ISI marked if any	1	No.	each	150	150.00
9	LED Bulb Supplying and fitting 20 W LED bulb inside the paump chamber make Syska/Philips/Havelis/Bajaj/ISI marked if any	1	No.	each	450	450.00
C	Earthing					
10	Supplying all materials and labours for doing earthing such 10 as 40 mm dia and 4.5 mr. length M.S. pipe, charcoal salt etc.	1	Job	p/job	5125	5125.00
E	Rubber matting sheet					
11	Supplying and fitting of rubber matting sheet size 3 ft. x 2 ft for preventing from the electric shock during operating the motor	1	job	p/job	2200	2200.00
F	Extension of over head single phase LT Line (0.16 Km) from nearest power point up to pump chamber by supplying all labour tools and tackles including loading, unloading with T&P and transposition cost with following materials.					
12	Supplying and fitting of LT Ploe top bracket	4	no.	each	253	1012.00
13	Supplying and laying of 10 mm³ 2 core Aluminium conduxtor PVC insulated around cable will be laid in air or under the ground from availability of single phase line up to pump chamber					
						132976.00
	say					132980.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate - 04A

Name of Work :- Providing & Fixing BIS approved 3 HP submersible motor starter all complete as per direction of engineer in charge.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	Supplying and fixing of top quality 3 HP motor starter.	1 No	Each	5200	5200
Total Rs.					Rs.5,200.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate - 04B

Name of Work :- Providing & Fixing BIS approved 2 HP submersible motor starter all complete as per direction of engineer in charge.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	Supplying and fixing of top quality 3 HP motor starter.	1 No	Each	4500	4500
Total Rs.					Rs.4,500.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate - 04C

Name of Work :- Providing & Fixing BIS approved 5 HP submersible motor starter all complete as per direction of engineer in charge.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	Supplying and fixing of top quality 5 HP motor starter.	1 No	Each	6000	6000
Total Rs.					Rs.6,000.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate - 5 A

90-220 V range single phase 7. 5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marke.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	(i) 90-220 V range single phase7. 5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked If any. 1 No.	1 (one) job	p/job	Rs.25,000.00	Rs.25,000.00
Total Rs.					Rs.25,000.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate - 05B

90-220 V range single phase 5.0 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marke.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	(i) 90-220 V range single phase 5.0 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked If any. 1 No.	(one) 1 job	p/job	Rs.20,000.00	Rs.20,000.00
Total Rs.					Rs.20,000.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 06A

ANALYSIS OF 100 METER WATER SUPPLY DISTRIBUTION SYSTEM FOR 90 MM DIA HDPE PIPELINE.

S.N.	Particulars					Quantity	Unit	Rate	Amount
1A	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m								
2.8	90mm dia Pipe	100.00	0.30	1.10	=	33.00			
		100.00				33.00	M ³		
	Add 5% extra for fittings =					1.65	M ³		
						34.65	M ³	P/M ³	Rs.360.70
									Rs.12,498.26
1B	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each					33.96	M ³	P/M ³	Rs.123.90
2.26									Rs.4,207.27
2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in -								
15.2.1	1:3:6 or richer mix								
	1	30	0.30	0.150	=	1.35			
						1.35	M ³	P/M ³	Rs.970.90
									Rs.1,310.72
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth								
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20mm nominal size)					1.35	M ³	P/M ³	Rs.3,998.10
									Rs.5,397.44
4	Carriage of materials								
	(a) Coarse sand (44 Km pucca +1 KM Kacha Carriage)					0.62	M ³	P/M ³	Rs.1,160.62
									Rs.720.75
	(b) Stone Chips(195 Km pucca + 5KM Kacha Carriage)					1.24	M ³	P/M ³	Rs.4,291.17
									Rs.5,329.63
5	Providing and laying High Density Polyethylene pipe (HDPE pipe) of 20 mm to 225 mm OD and pressure 6.0 Kg/cm2 and 10 Kg/cm2 suitable for water supply which is available in all standard, like ISI-4984/1995 and various grades like PE-80, PE-100 including required specials. Rates are inclusive of , all taxes and duties (Exise duty @12.50% & CST @ 2% against Form 'C'), labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.								
	HDPE pipe of materials grade PE100- PN10 (dia in mm)								
	90mm dia Pipe					100.00	M	P/M	Rs.437.96
	Providing all materials labours tools, fittings, specials and tackles for fitting,								
	5% of the cost of HDPE Pipe								Rs.2,189.80
								TOTAL	Rs.75,449.86
								Cost Per Meter	Rs.754.50

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 06 B

ANALYSIS OF 100 METER WATER SUPPLY DISTRIBUTION SYSTEM FOR 75 MM DIA HDPE PIPELINE.

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A 2.8	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including				
	90mm dia 0.00 0.30 1.10 =	0.00			
	75mm dia 100.00 0.30 1.10 =	33.00			
	63mm dia 0.00 0.30 1.10 =	0.00			
	50mm dia 0.00 0.30 1.10 =	0.00			
	40mm dia 0.00 0.30 1.10 =	0.00			
	100.00	33.00	M ³		
	Add 5% extra for fittings =	1.65	M ³		
		34.65	M ³	P/M ³	Rs.360.70
1B 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not	33.96	M ³	P/M ³	Rs.123.90
2 15.2.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres				
	1:3:6 or richer mix				
	1 30 0.30 0.150 =	1.35			
		1.35	M ³	P/M ³	Rs.970.90
3 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone	1.35	M ³	P/M ³	Rs.3,998.10
4	Carriage of materials				
	(a) Coarse sand (44 Km pucca +1 KM Kacha Carriage)	0.62	M ³	P/M ³	Rs.1,160.62
	(b) Stone Chips(195 Km pucca + 5KM Kacha Carriage)	1.24	M ³	P/M ³	Rs.4,291.17
5	Providing and laying High Density Polyethylene pipe				
	HDPE pipe of materials grade PE100- PN10 (dia in mm)				
	90mm dia Pipe	0.00	M	P/M	Rs.437.96
	75mm dia Pipe	100.00	M	P/M	Rs.306.31
	63mm dia Pipe	0.00	M	P/M	Rs.218.62
	HDPE pipe of materials grade PE100- PN8 (dia in mm)				
	50mm dia Pipe	0.00	M	P/M	Rs.116.25
	40mm dia Pipe	0.00	M	P/M	Rs.76.53
	Providing all materials labours tools, fittings, specials				
	5% of the cost of HDPE Pipe				Rs.1,531.55
6	Providing and fixing brass gate valve with C.I. wheel of				
	80mm dia Pipe	0 Nos.	Each	Rs.2,227.60	Rs.0.00
	65mm dia Pipe	0 Nos.	Each	Rs.1,490.70	Rs.0.00
	50mm dia Pipe	0 Nos.	Each	Rs.878.20	Rs.0.00
	40mm dia Pipe	0 Nos.	Each	Rs.707.30	Rs.0.00
7 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse	0 Nos.	Each	Rs.7,210.60	Rs.0.00
	Work for additional depth				
	Brick work (1:4) in foundation				
	2 1.10 0.25 0.35 0.193				
	2 0.60 0.25 0.35 0.105				
		0.298	0.000	M ³	P/M ³
	Plaster (1:3)				
	8 1.10 0.35 3.08	0	M ²	P/M ²	Rs.164.30
	Carriage 10% of item 7				Rs.0.00
8 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes &				
	0 0.45 0.45	0.000	M ²	P/M ²	Rs.283.30
				TOTAL	Rs.61,626.61

Say **61,627.00**
Rate per meter 616.27

Assistant Engineer
P.H Sub Division

Executive Engineer,
P.H.Division, Patna West, Patna

S.N.	Particulars					Quantity		Unit	Rate	Amount
1A 2.8	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including									
	90mm dia	0.00	0.30	1.10	=	0.00				
	75mm dia	0.00	0.30	1.10	=	0.00				
	63mm dia	100.00	0.30	1.10	=	33.00				
	50mm dia	0.00	0.30	1.10	=	0.00				
	40mm dia	0.00	0.30	1.10	=	0.00				
		100.00				33.00	M ³			
	Add 5% extra for fittings =					1.65	M ³			
						34.65	M ³	P/M ³	Rs.360.70	Rs.12,498.26
1B 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not					33.96	M ³	P/M ³	Rs.123.90	Rs.4,207.27
2 15.2.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres									
	1:3:6 or richer mix									
	1	30	0.30	0.150	=	1.35				
						1.35	M ³	P/M ³	Rs.970.90	Rs.1,310.72
3 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and									
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone					1.35	M ³	P/M ³	Rs.3,998.10	Rs.5,397.44
4	Carriage of materials									
	(a) Coarse sand (44 Km pucca +1 KM Kacha Carriage)					0.62	M ³	P/M ³	Rs.1,160.62	Rs.720.75
	(b) Stone Chips(195 Km pucca + 5KM Kacha Carriage)					1.24	M ³	P/M ³	Rs.4,291.17	Rs.5,329.63
5	Providing and laying High Density Polyethylene pipe									
	HDPE pipe of materials grade PE100- PN10 (dia in mm)									
	90mm dia Pipe					0.00	M	P/M	Rs.437.96	Rs.0.00
	75mm dia Pipe					0.00	M	P/M	Rs.306.31	Rs.0.00
	63mm dia Pipe					100.00	M	P/M	Rs.218.62	Rs.21,862.00
	HDPE pipe of materials grade PE100- PN8 (dia in mm)									
	50mm dia Pipe					0.00	M	P/M	Rs.116.25	Rs.0.00
	40mm dia Pipe					0.00	M	P/M	Rs.76.53	Rs.0.00
	Providing all materials labours tools, fittings, specials									
	5% of the cost of HDPE Pipe									Rs.1,093.10
6	Providing and fixing brass gate valve with C.I. wheel of									
	80mm dia Pipe					0	Nos.	Each	Rs.2,227.60	Rs.0.00
	65mm dia Pipe					0	Nos.	Each	Rs.1,490.70	Rs.0.00
	50mm dia Pipe					0	Nos.	Each	Rs.878.20	Rs.0.00
	40mm dia Pipe					0	Nos.	Each	Rs.707.30	Rs.0.00
7 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse					0	Nos.	Each	Rs.7,210.60	Rs.0.00
	Work for additional depth									
	Brick work (1:4) in foundation									
	2	1.10	0.25	0.35	0.193					
	2	0.60	0.25	0.35	0.105					
					0.298	0.000	M ³	P/M ³	Rs.5,017.90	Rs.0.00
	Plaster (1:3)									
	8	1.10		0.35	3.08	0	M ²	P/M ²	Rs.164.30	Rs.0.00
	Carriage 10% of item 7									Rs.0.00
8 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes &									
	0	0.45	0.45			0.000	M ²	P/M ²	Rs.283.30	Rs.0.00
									TOTAL	Rs.52,419.16
									Say	52,420.00
									Rate per Meter	524.20

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Est. No. 06 D

ANALYSIS OF 100 METER WATER SUPPLY DISTRIBUTION SYSTEM FOR 50 MM DIA HDPE PIPELINE.

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A 2.8	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including				
	90mm dia 0.00 0.30 1.10 =	0.00			
	75mm dia 0.00 0.30 1.10 =	0.00			
	63mm dia 0.00 0.30 1.10 =	0.00			
	50mm dia 100.00 0.30 1.10 =	33.00			
	40mm dia 0.00 0.30 1.10 =	0.00			
	100.00	33.00	M ³		
	Add 5% extra for fittings =	1.65	M ³		
		34.65	M ³	P/M ³	Rs.360.70
					Rs.12,498.26
1B 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not	33.96	M ³	P/M ³	Rs.123.90
					Rs.4,207.27
2 15.2.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres				
	1:3:6 or richer mix				
	1 30 0.30 0.150 =	1.35			
		1.35	M ³	P/M ³	Rs.970.90
					Rs.1,310.72
3 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone	1.35	M ³	P/M ³	Rs.3,998.10
					Rs.5,397.44
4	Carriage of materials				
	(a) Coarse sand (44 Km pucca +1 KM Kacha Carriage)	0.62	M ³	P/M ³	Rs.1,160.62
					Rs.720.75
	(b) Stone Chips(195 Km pucca + 5KM Kacha Carriage)	1.24	M ³	P/M ³	Rs.4,291.17
					Rs.5,329.63
5	Providing and laying High Density Polyethylene pipe				
	HDPE pipe of materials grade PE100- PN10 (dia in mm)				
	90mm dia Pipe	0.00	M	P/M	Rs.437.96
					Rs.0.00
	75mm dia Pipe	0.00	M	P/M	Rs.306.31
					Rs.0.00
	63mm dia Pipe	0.00	M	P/M	Rs.218.62
					Rs.0.00
	HDPE pipe of materials grade PE100- PN8 (dia in mm)				
	50mm dia Pipe	100.00	M	P/M	Rs.116.25
					Rs.11,625.00
	40mm dia Pipe	0.00	M	P/M	Rs.76.53
					Rs.0.00
	Providing all materials labours tools, fittings, specials				
	5% of the cost of HDPE Pipe				Rs.581.25
6	Providing and fixing brass gate valve with C.I. wheel of				
	80mm dia Pipe	0 Nos.	Each	Rs.2,227.60	Rs.0.00
	65mm dia Pipe	0 Nos.	Each	Rs.1,490.70	Rs.0.00
	50mm dia Pipe	0 Nos.	Each	Rs.878.20	Rs.0.00
	40mm dia Pipe	0 Nos.	Each	Rs.707.30	Rs.0.00
7 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse	0 Nos.	Each	Rs.7,210.60	Rs.0.00
	Work for additional depth				
	Brick work (1:4) in foundation				
	2 1.10 0.25 0.35 0.193				
	2 0.60 0.25 0.35 0.105				
		0.298	0.000	M ³	P/M ³
					Rs.5,017.90
					Rs.0.00
	Plaster (1:3)				
	8 1.10 0.35 3.08	0	M ²	P/M ²	Rs.164.30
					Rs.0.00
	Carriage 10% of item 7				Rs.0.00
8 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes &				
	0 0.45 0.45	0.000	M ²	P/M ²	Rs.283.30
					Rs.0.00
				TOTAL	Rs.41,670.31
				Say	41,671.00
				Rate per meter	416.71

Assistant Engineer
P.H Sub Division

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 06 E

ANALYSIS OF 100 METER WATER SUPPLY DISTRIBUTION SYSTEM FOR 40 MM DIA HDPE PIPELINE.

S.N.	Particulars					Quantity	Unit	Rate	Amount	
1A 2.8	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.									
	90mm dia Pipe	0.00	0.30	1.10	=	0.00				
	75mm dia Pipe	0.00	0.30	1.10	=	0.00				
	63mm dia Pipe	0.00	0.30	1.10	=	0.00				
	50mm dia Pipe	0.00	0.30	1.10	=	0.00				
	40mm dia Pipe	100.00	0.30	1.10	=	33.00				
		100.00				33.00	M ³			
	Add 5% extra for fittings =					1.65	M ³			
						34.65	M ³	P/M ³	Rs.360.70	
									Rs.12,498.26	
1B 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in					33.96	M ³	P/M ³	Rs.123.90	Rs.4,207.27
2 15.2.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.									
	1:3:6 or richer mix									
	1	30	0.30	0.150	=	1.35				
						1.35	M ³	P/M ³	Rs.970.90	Rs.1,310.72
3 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth									
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate					1.35	M ³	P/M ³	Rs.3,998.10	Rs.5,397.44
4	Carriage of materials									
	(a) Coarse sand (44 Km pucca +1 KM Kacha Carriage)					0.62	M ³	P/M ³	Rs.1,160.62	Rs.720.75
	(b) Stone Chips(195 Km pucca + 5KM Kacha Carriage)					1.24	M ³	P/M ³	Rs.4,291.17	Rs.5,329.63
5	Providing and laying High Density Polyethylene pipe (HDPE pipe) of 20 mm to 225 mm OD and pressure 6.0 Kg/cm2 and 10 Kg/cm2 sutable for water supply which is available in all standard, like ISI-4984/1995 and various grades like PE-80, PE-100 including required specials. Rates are inclusive of , all taxes and duties (Exise duty @12.50% & CST @ 2% against Form 'C'), labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.									
	HDPE pipe of materials grade PE100- PN10 (dia in mm)									
	90mm dia Pipe					0.00	M	P/M	Rs.437.96	Rs.0.00
	75mm dia Pipe					0.00	M	P/M	Rs.306.31	Rs.0.00
	63mm dia Pipe					0.00	M	P/M	Rs.218.62	Rs.0.00
	HDPE pipe of materials grade PE100- PN8 (dia in mm)									
	50mm dia Pipe					0.00	M	P/M	Rs.116.25	Rs.0.00
	40mm dia Pipe					100.00	M	P/M	Rs.76.53	Rs.7,653.00
	Providing all materials labours tools, fittings, specials and tackles for fitting, jointing and connecting HDPE pipes.									
	5% of the cost of HDPE Pipe									Rs.382.65
6	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end).									
	80mm dia Pipe					0	Nos.	Each	Rs.2,227.60	Rs.0.00
	65mm dia Pipe					0	Nos.	Each	Rs.1,490.70	Rs.0.00
	50mm dia Pipe					0	Nos.	Each	Rs.878.20	Rs.0.00
	40mm dia Pipe					0	Nos.	Each	Rs.707.30	Rs.0.00
7 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve,with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , necessary excavation, foundation concrete 1:5:10(1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominalsize) and inside plastering with cement mortar 1:3 (1 cement : 3coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard specifications & direction of E/I.									
	Work for additional depth					0	Nos.	Each	Rs.7,210.60	Rs.0.00
	Brick work (1:4) in foundation									
	2	1.10	0.25	0.35	0.193					
	2	0.60	0.25	0.35	0.105					
					0.298	0.000	M ³	P/M ³	Rs.5,017.90	Rs.0.00
	Plaster (1:3)									
	8	1.10		0.35	3.08	0	M ²	P/M ²	Rs.164.30	Rs.0.00
	Carriage 10% of item 7									Rs.0.00
8 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes & royalty all complete									
		0	0.45	0.45		0.000	M ²	P/M ²	Rs.283.30	Rs.0.00
									TOTAL	Rs.37,499.71
									Say	37,500.00
									Rate per meter	375.00

Assistant Engineer
P.H Sub Division

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate no. - 07

Name of work :- Estimate for replacing damaged Riser & Delivery pipe 8 meter staging with G.I pipe and providing gate valve all complete as per direction of engineer in charge.

S.N.	Particulars	Quantity		Unit	Rate	Amount
6A/ 18.12	Providing and fixing G.I.Pipes complete with G.I. Fittings including trenching and refilling etc.					
18.12.6	50mm dia G.I.Pipe from T/well to PVC Tank	14.00	M	P/M	Rs.572.60	Rs.8,016.40
18.12.8	80mm dia G.I.Pipe from PVC Tank to Distribution main	14.00	M	P/M	Rs.818.20	Rs.11,454.80
18.12.7	65mm dia G.I.Pipe for wash out	12.00	M	P/M	Rs.667.70	Rs.8,012.40
6B/	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end).					
	80mm dia Pipe	1	Nos.	Each	Rs.2,227.60	Rs.2,227.60
	50mm dia Pipe	2	Nos.	Each	Rs.878.20	Rs.1,756.40
10A	Supplying all materials labours & fixing 50mm dia. G.I pipe for using as filling station etc. All as per direction of E/I					
	50mm dia. Pipe from distribution main	3.50	M	P/M	572.60	2004.10
10B	Providing and fixing G.I fittings					
	80mmx80mmx50mm dia Tee	1	No	Each	225.00	225.00
	50mm dia bend	3	No	Each	175.00	525.00
	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :50mm nominal dia.	1	N	Each	811.40	811.40
	Grand Total					Rs.35,033.10

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate no. - 08
Estimate for supply & installation of water storage tank.

S.N.	Particulars	Quantity	Unit	Rate	Amount
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1A/ 18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	5000	Ltrs.	P/Ltr.	Rs.9.70	Rs.48,500.00
1B	Providing and fixing MS clamp consisting of 32mm X 5mm thick two no. rings spaced suitably distance apart.				LS	Rs.3,000.00
2	Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour.					
	50mm dia	2	Nos.	each	Rs.300.00	Rs.600.00
	63mm dia	1	No.	each	Rs.350.00	Rs.350.00
	80 mm dia	1	No.	each	Rs.550.00	Rs.550.00
	Grand Total					Rs.53,000.00

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate no.- 9

Electronically Regulated Doser Type Chlorinator

Sl. No.	Particulars	Quantity	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Providing cost of electronically regulated Doser type chlorinator using sodium Hypo Chlorite (NaOCl) and installation including all cost and necessary fittings and connections as required and carriage cost etc. all complete as per direction of E/I.	1	No. Each	23515.00	23515.00
TOTAL : -				Rs.23,515.00	

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 7

8 M HIGH STEEL STRUCTURE STAGING FOR 10000 LITER PVC TANK / RCC STAGING

S.N.	Particulars	Quantity	Unit	Rate	Amount
1 10.3	Structural steel work riveted or bolted in built up sections, truss and framed work, including for 8M high staging with ladder of ISA65x65x6 and	4240 Kg	P/Kg	Rs.104.00	Rs.440,960.00
2 2.8.1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on base of footing 4 1.95 1.95 1.35 = 20.534 Under Tie beam 2 2.30 0.25 0.275 = 0.316 2 1.30 0.25 0.275 = 0.179 21.029	21.029 M ³	P/M ³	Rs.360.70	Rs.7,584.98
3- 2.28	Supplying and filling in plinth with local sand and under floors including watering, ramming base of footing 4 1.95 1.95 0.10 = 1.521 Under Tie beam 2 3.95 0.25 0.10 = 0.198 2 2.95 0.25 0.10 = 0.148 Floor 1 4.00 3.00 0.10 = 1.200 3.066	3.066 M ³	P/M ³	Rs.287.30	Rs.880.86
4- 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes base of footing 4 1.95 1.95 = 15.210 Under Tie beam 2 3.95 0.25 = 1.975 2 2.95 0.25 = 1.475 Floor 1 4.00 3.00 = 12.000 30.660	30.660 M ²	P/M ²	Rs.283.30	Rs.8,685.98
5 4.1.2	Providing and laying in position cement concrete of specified grade exluding the cost of centring and 1:1.5:3(1 Cement :1.5 coarse sand:3 graded stone base of footing 4 1.95 1.95 0.075 = 1.141 Floor 1 4.00 3.00 0.10 = 1.200 2.341	2.341 M ³	P/M ³	Rs.4,420.80	Rs.10,347.99
6 5.1.2	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of 1:1.5:3(1 cement: 1.5 coarse sand:3 graded stone Tie beam 2 3.80 0.25 0.25 = 0.475 2 2.80 0.25 0.25 = 0.350 base of footing 4 1.80 1.80 0.30 = 3.888 4 0.60 0.60 0.15 = 0.216 Column below GL 4 0.45 0.45 0.65 = 0.527 Column above GL 4 0.45 0.45 0.15 = 0.122 5.577	5.577 M ³	P/M ³	Rs.4,688.30	Rs.26,146.65
7- 5.9.1	Centring and shuttering including strutting,propping etc. and removal of form for. 4 3.80 0.25 = 3.800 4 2.80 0.25 = 2.800 16 1.80 0.30 = 8.640 16 0.60 0.15 = 1.440 16 0.45 0.65 = 4.680 16 0.45 0.15 = 1.080 22.440	22.440 M ²	P/M ²	Rs.211.60	Rs.4,748.30
8- 5.22	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all 8 mm to 16 mm tor steel Total Reinforcement. = 446.24 Kg.	446.24 Kg.	P/Kg.	Rs.94.50	Rs.42,169.68
9 2.26 10 13.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of oundations etc. in layers not Neat cement punning 1 4.00 3.00 = 12.000	10.514 M ³ 12.000 M ²	P/M ³ P/M ²	Rs.123.90 Rs.40.50	Rs.1,302.72 Rs.486.00
11- 10.7.1	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset				

	Using flats 30x6 mm for diagonal braces and central Door							
	1	0.9	2.10	=	1.890			
	Window							
	1	1.2	0.90	=	1.080			
			Total	=	2.970	2.970 M ³	P/M ³	Rs.3,653.00
								Rs.10,849.41
12-12.1.4	Providing corrugated G.S. sheet roofing fixed with G.I.J. or hooks, bolts and nuts 8 mm diameter with 0.8mm thick with zinc coating not less than 275							
	Roof							
	1	4.50	3.50	=	15.750			
	Wall							
	1	16.00	3.00	=	48.000			
					63.750			
	Deduct for door & window							
	1	0.9	2.10	=	1.890			
	1	1.2	0.90	=	1.080			
					2.970			
			Net Qty	=	60.780	60.780 M ²	M ²	Rs.1,501.30
								Rs.91,249.01
13-10.19-14-13.82.1	Providing and fixing anchor bolt of 20 mm dia and 0.60 Mtr length (bolt, washer & double nut)				25.60 Kg	P/kg	Rs.82.70	Rs.2,117.12
	Painting with ready mixed paint of approved brand and manufacture in all shades to give an even shade:							
	New steel work (two or more coats)							
	Frame work							
	0.5	16.00	8.00	=	64.000			
	0.5	5.00	4.00	=	10.000			
	Roof sheet							
	2	4.50	3.50	=	31.500			
	Top sheet							
	2	5.00	4.00	=	40.000			
	GI sheet wall							
	2	16.00	3.00	=	96.000			
					241.500	241.50 M ²	M ²	Rs.83.50
								Rs.20,165.25
15	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.							
	(a) Bricks				990 Nos.	%0 nos.	Rs.927.89	Rs.918.61
	(b) Coarse sand				3.440 M ³	P/M ³	Rs.2,050.93	Rs.7,055.19
	(c) Stone Chips				6.695 M ³	P/M ³	Rs.3,021.01	Rs.20,225.67
	(d) Local Sand				3.530 M ³	P/M ³	Rs.277.20	Rs.978.53
							TOTAL	Rs.696,871.95
							say	Rs.696,900.00

Junior Engineer

Assistant engineer

Executive Engineer,
P.H.Division, Patna West, Patna

PAINTING OF 8 M HIGH STEEL STRUCTURE STAGING											
S.N.	Particulars					Quantity		Unit	Rate	Amount	
14-13.82.1	Painting with ready mixed paint of approved brand and manufacture in all shades to give an even shade:										
	New steel work (two or more coats)										
	Frame work										
	0.5	16.00	8.00		=	64.000					
	0.5	5.00	4.00		=	10.000					
	Roof sheet										
	2	4.50	3.50		=	31.500					
	Top sheet										
	2	5.00	4.00		=	40.000					
	GI sheet wall										
	2	16.00	3.00		=	96.000					
						241.500	241.50	M ²	M ²	Rs.83.50	Rs.20,165.25
										TOTAL	Rs.20,165.25
										say	Rs.20,200.00

Executive Engineer,
P.H.Division, Patna West, Patna

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 12											
Name of the work :- Providing GI enclosure to house electric switch panel for steel structure staging all complete.											
S.N.	Particulars						Quantity		Unit	Rate	Amount
11-10.7.1	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.										
	Using flats 30x6 mm for diagonal braces and central cross piece.										
	Door										
	1	0.9	2.10		=	1.890					
	Window										
	1	1.2	0.90		=	1.080					
				Total	=	2.970	2.970	M ³	P/M ³	Rs.3,653.00	Rs.10,849.41
12-12.1.4	Providing corrugated G.S. sheet roofing fixed with G.I.J. or hooks, bolts and nuts 8 mm diameter with bitumen and G. I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on over lapping of sheets complete (upto a pitch of 60°) excluding the cost of purlins, rafters and trusses.										
	0.8mm thick with zinc coating not less than 275 gm/mz										
	Roof										
	1	4.50	3.50		=	15.750					
	Wall										
	1	16.00	3.00		=	48.000					
						63.750					
	Deduct for door & window										
	1	0.9	2.10		=	1.890					
	1	1.2	0.90		=	1.080					
						2.970					
	Net Qty				=	60.780	60.780	M ²	M ²	Rs.1,501.30	Rs.91,249.01
13-10.19	Providing and fixing anchor bolt of 20 mm dia and 0.60 Mtr length (bolt, washer & double nut) embedded in R.C.C pedestal all complete as per direction of Engineer in charge. @4x4x1.60kg						25.60	Kg	P/kg	Rs.82.70	Rs.2,117.12
										TOTAL	Rs.104,215.54
										say	Rs.104,200.00
<p style="text-align: right;">Executive Engineer, P.H.Division, Patna West, Patna</p>											

Sub Est. No. 13												
Name of the work :- Construction of floor for staging etc. all complete												
S.N.	Particulars						Quantity		Unit	Rate	Amount	
3-2.28	Supplying and filling in plinth with local sand and under floors including watering, ramming consolidating and dressing complete.											
	Floor											
	1	4.00	3.00	0.10	=	1.200						
						1.200	1.200	M ³	P/M ³	Rs.287.30	Rs.344.76	
4-11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes & royalty all complete as per specification & direction of E/I.											
	Floor											
	1	4.00	3.00		=	12.000						
						12.000	12.000	M ²	P/M ²	Rs.283.30	Rs.3,399.60	
54.1.2	Providing and laying in position cement concrete of specified grade excludng the cost of centring and shuttering-all work upto plinth level.											
	1:1.5:3(1 Cement :1.5 coarse sand:3 graded stone aggregate 20 mm nominal size)											
	base of footing											
	4	1.95	1.95	0.075	=	0.000						
	Floor											
	1	4.00	3.00	0.10	=	1.200						
						1.200	1.200	M ³	P/M ³	Rs.4,420.80	Rs.5,304.96	
9-6.1.14A +6.3A	Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:6 (1 Cement : 6 Sand) Extra for brick work in super structure above plinth											
	2	4.25	0.25	0.50	=	0.000						
	2	3.25	0.25	0.50	=	0.000						
	Net Quantity											
						0.000	0.000	M ³	P/M ³	Rs.4,490.60	Rs.0.00	
10/ 2.28	Supplying and Filling in plinth with local sand and under floors including, watering, ramming consolidating and dressing complete.						6.906	M ³	P/M ³	Rs.287.30	Rs.1,984.17	
15	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.											
	(a) Bricks (7 Km. Pucca & 1 Km. Kaccha lead)						396	Nos.	%0 nos.	Rs.873.20	Rs.345.79	
	(b) Coarse sand (44 Km pucca & 1 km kaccha Carriage)						0.552	M ³	P/M ³	Rs.2,094.88	Rs.1,156.37	
	(c) Stone Chips (195 Km pucca & 5 km unsurfaced Carriage)						1.104	M ³	P/M ³	Rs.2,999.84	Rs.3,311.82	
	(d) Local Sand (2 Km. lead & 1km Kachaa lead)						8.106	M ³	P/M ³	Rs.328.92	Rs.2,666.28	
	TOTAL										Rs.18,513.75	
	Rate per sqm.										1,542.81	

Executive Engineer,
P.H.Division, Patna West, Patna

**Executive Engineer,
P.H.Division, Patna West, Patna**

(Sub Estimate - 14)

Name of work :- Providing ladder in staging including all accessories etc. all complete.

<u>1</u> <u>10.32.1</u>	Particulars	Quantity		Unit	Rate	Amount
	Ladder of ISA 65x65x6 and 16mm dia MS bar as trade @ 400mm c/c including all accessories for weight 50kg. complete as per standard specifications & direction of E/I.	120.00	Kg	P/Kg	Rs.104.00	Rs.12,480.00

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Est. No. 15**Estimate for the work - House service connection****SUB-ESTIMATE**

S.No.	Description	Qty	Unit	Rate	Amount
1A	Providing and fixing MDPE (PE 80 GradeCompound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for waterapplication rates are inclusive of , taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and				
	MDPE Pipe 20mm dia nominal bore	6.00	PM	Rs.27.42	Rs.164.52
1B	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.Internal work - Exposed on wall				
18.10.1	15 mm dia nominal bore	1.1	PM	Rs.227.70	Rs.250.47
1C	Providing and faying cement concrete in kerbs, steps and the like at or near ground level excluding the cost of centring, shuttering and finishing.				
4.4.1	1:2:4 (1 Cement :2 coarse sand :4 grade stone aggregate 20 mm nominal size)				
	Providing SWR pipe as support with concrete work to the standing GI Pipe				
	22/28 x 0.10m x .10m x 1.0M=	0.009	P/M ³	Rs.3,998.10	Rs.35.98
12.78.2	Providing & fixing of SWR Pipe of 110mm dia=	1.0	PM	Rs.257.50	Rs.257.50
2	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and amming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil				
2.8.1	6.00 0.30 0.60 1.08	1.08	CuM	Rs.360.70	Rs.389.56
3 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	1.06	CuM	Rs.123.90	Rs.131.33
4	Providing and fixing brass ferrule with CI mouth cover incuding boring and tapping the				
18.20.1	15mm nominal bore	1	Each	Rs.301.60	Rs.301.60
(a)	Providing and fixing P.P. Clamp service Saddle (Brass threaded)	1	Each	Rs.400.00	Rs.400.00
(b)	Providing and fixing female Adopter for adjoining the ferrule to MDPE pipe	1	Each	Rs.75.00	Rs.75.00
(c)	Providing and fixing female elbow Adopter for adjoining the MDPE pipe to GI Pipe	1	Each	Rs.50.00	Rs.50.00
5	Providing and fixing CP brass bib cock of approved quality conforming to IS :8931				
18.49	15 mm nominal bore	1	Each	Rs.434.20	Rs.434.20
	Total				Rs.2,490.16
	Say				Rs.2,490.00

Executive Engineer,
P.H.Division, Patna West, Patna

SUB-ESTIMATE - 16					
Estimate for the work - Repairing of House service connection					
S.No.	Description	Qty	Unit	Rate	Amount
1A Rate as per cost index @15.06%	Providing and fixing MDPE (PE 80 GradeCompound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for waterapplication rates are inclusive of all taxes and duties, labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.complete.				
	MDPE Pipe 20mm dia nominal bore (WP indexed at 15.06% over 2018 rates)	3.00	PM	27.42	Rs.82.26
1C	Providing and laying cement concrete in kerbs, steps and the like at or near ground level excluding the cost of centring, shuttering and finishing.				
4.4.1	1:2:4 (1 Cement :2 coarse sand :4 grade stone aggregate 20 mm				
	Providing SWR pipe as support with concrete work to the standing GI Pipe				
	22/28 x 0.10m x .10m x 1.0M=	0.009	P/M ³	Rs.3,998.10	Rs.35.98
12.78.2	Providing & fixing of SWR Pipe of 110mm dia=	1.0	PM	Rs.257.50	Rs.257.50
2	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and amming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed. within a lead of 50 m. All kinds of soil				
2.8.1	3.00 0.30 0.60 0.54	0.54	CuM	Rs.360.70	Rs.194.78
3 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	0.53	CuM	Rs.123.90	Rs.65.57
(b) Rate as	Providing and fixing female Adopter for adjoining the ferrule to MDPE pipe (WP indexed at 15.06% over 2018 rates)	1	Each	75.00	Rs.75.00
(c) Rate as	Providing and fixing female elbow Adopter for adjoining the MDPE pipe to GI Pipe (WP indexed at 15.06% over 2018 rates)	1	Each	50	Rs.50.00
	Total				Rs.761.09
	Say				Rs.761.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub- Estimate No. 16A**Repairing of House Connection in case leakage at Ferrule**

S.No.	Description				Qty	Unit	Rate	Amount
1	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and amming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil							
2.8.1	1.00	1.00	1.00	1.00	1.00	CuM	Rs.360.70	Rs.360.70
2.8.1	6.00	0.30	0.60	1.08	0.00	CuM	Rs.360.70	Rs.0.00
2 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead				0.98	CuM	Rs.123.90	Rs.121.42
3	Providing and fixing MDPE (PE 80 GradeCompound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for waterapplication rates are inclusive of , taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete asper direction of Engineer-in-charge.complete.							
	MDPE Pipe 20mm dia nominal bore				6.00	PM	Rs.27.42	Rs.0.00
7	Providing and fixing brass ferrule with CI mouth cover incuding boring and tapping the main:							
18.20.1	15mm nominal bore				1	Each	Rs.301.60	Rs.301.60
8	Providing and fixing P.P. Clamp service Saddle (Brass threaded)				1	Each	Rs.400.00	Rs.400.00
9	Providing and fixing female Adopter for adjoining the ferrule to MDPE pipe				1	Each	Rs.75.00	Rs.75.00
10	Providing and fixing female elbow Adopter for adjoining the MDPE pipe to GI Pipe				1	Each	Rs.50.00	Rs.50.00
11	Providing and fixing PTMT bib cock of approved quality and colour:							
18.54.1	15 mm nominal bore				1	Each	Rs.109.80	Rs.109.80
								Rs.1,418.52
	Total							Rs.1,418.52
						Say		Rs.1,419.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub- Estimate No.16B
Repairing of House Connection

S.No.	Description	Qty	Unit	Rate	Amount
Repairing of House Connection in case of only MDPE damage					
1	Providing and fixing MDPE (PE 80 Grade Compound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for water application rates are inclusive of , taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.complete.				
	MDPE Pipe 20mm dia. nominal bore	3.00	PM	Rs.27.42	Rs.82.26
2	Providing and fixing female elbow Adopter for adjoining the MDPE pipe to GI Pipe	2	Each	Rs.50.00	Rs.100.00
					Rs.182.26
				Total	Rs.182.26
				Say	Rs.182.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

SUB-ESTIMATE - 17					
Estimate for the work - New Bib Cock					
S.No.	Description	Qty	Unit	Rate	Amount
1 (18.54)	Providing and fixing PTMT bib cock of approved quality and colour.	1	Each	Rs.109.80	Rs.109.80
	Total				Rs.109.80
	Say				Rs.110.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate - 18						
Repairing of 3 HP Motor						
Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3		4	5	6
1	Providing all labours, tools and tackles at site for opening all electrical connections of 3 HP sub motor and dismantalling of delivery line& taken out submersible motor pump with column pipe from Tube Well. Analysis Mechanic for 1 day = 1 No @ 391.00 = Rs 391.00 Unskilled Helper for 1 day 2 No @ 306.00 = Rs 612.00 Total = 1003.00 Add CP & OH @ 15% = Rs 150.45 Gross Total = Rs 1153.45 Add 12% GST = Rs 138.41 Gross Total including 12% = Rs 1291.86 Sav = Rs 1292.00	1	Job	P/Job	1292	1292
2	Complete opening of 3 HP Sub motor part by part, cutting its burnt wire & taking out from slots, cleaning the stator slots all complete in workshop.	1	Job	P/Job	300	300
3	Cost for supply of PVC insulated copper winding wire of size 0.8mm dia make - Finolex Base Cost (List Price) exclusive GST = 5.75 Add CP & OH @ 15% = 0.86 Gross Total = 6.61 Add 12% GST = 0.79 Gross Total including 12% = 7.40 Sav = 7.50	500	mtr	P/mtr	7.5	3750
4	Cost for making,supplying and fitting of lower & upper bronze bush of size ID 20mm OD 28mm Length 25mm. Analysis Weight of bronze rod of size OD 28mm X Length 25mm density 8780 Kg/m3 = 3.14 X 28 X 28 X 25 X 8780/10^9 =0.14 Kg Cost @ Rs 850 per Kg = Rs 119.00 Cost for cutting, finishing and machining work for making bush as per size @ 40% of a = Rs 47.60 Total = Rs. 166.60 Add CP & OH @ 15% = Rs 24.99 Gross Total = Rs 191.59 Add 12% GST = Rs 22.99 Net Total including GST 12% = Rs 214.58 Say = Rs 215.00	4	No	Each	215	860
5	Supply and fitting of thrust plate with counter thrust complete set	1	No	Each	800	800
6	Cost for making all arrangement tools & skilled workmanship for making coil of copper wire as per required size and rewinding of stator	18	No	Each	30	540
7	Cost for insulating material and jointing materials such asPVC paper sleede, cotton tap, PVC tap, soldering wire, flux & rubber compound etc. as required at the time of rewinding	1	Job	P/Job	200	200
8	Cost of Transportation charges of 3 HP sub motor including loading, all complete and carrying from pump house to firm workshop and back to pump house after rewinding	1	Job	P/Job	500	500

9	Providing all labours, tools and tackles at site for lowering of 3 HP sub motor pump with column pipe into the tube well, doing all electric connection, refitting nut-bolt & refitting delivery line & testing on load. Analysis Mechanic for 1 day = 1 No @ 391.00 = Rs 391.00 Unskilled Helper for 1 day 2 No @ 306.00 = Rs 612.00 Total = 1003.00 Add CP & OH @ 15% = Rs 150.45 Gross Total = Rs 1153.45 Add 12% GST = Rs 138.41 Gross Total including 12% = Rs 1291.86 Say = Rs 1292.00	1	Job	P/Job	1292	1292
10	Deduct : Cost of scrap materials burnt copper wire	1.5	Kg	P/Kg	436	-654
						8880

Say =

8880

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub- Estimate No.18b

Estimate for repairing and rewinding of 5 HP Sub Motor(single/Three phase) with Provision of all materials tools & labour etc.

Sr. No.	Particulars							Quantity		Unit	Rate	Amount
1	Providing all about, tools and tackles at uite for opening all electrical connections of 3 HP Sub Motor and diamentling of delevry line & taken out submersible motor Pump with column pipe from Tube Well							1	Job	P/Job	Rs.1,887.59	Rs.1,887.59
	Analysis											
	(i) Mechanic for 1 days	1	No.	@	Rs.473.00	=	Rs.473.00					
	(ii) Unskilled Helper for 1 days	3	No.	@	Rs.306.00	=	Rs.918.00					
				Total			Rs.1,391.00					
	Add: CP & OH @15%					=	Rs.208.65					
	Gross Total						Rs.1,599.65					
	Add GST @ 18%					=	Rs.287.94					
	Net including 18% GST						Rs.1,887.59					
2	Complete opening of 3 HP Sub Motor Part by part, cutting its bumt wire & taking out from slots, cleaning the stator slots all complete in workshop.							1	Job	P/Job	Rs.750.00	Rs.750.00
3	Repairing of slots by weiding with CI electrodes and facing and polishing all complete.							1	Slot	P/Slot	Rs.40.00	Rs.40.00
4	Cost for supply of PVC insulated copper winding wire of Size 0.9 mm make -Finolox											
	Base Cost (list price(exclusive) GST					=	Rs.7.25	500	m	P/m	Rs.9.84	Rs.4,919.13
	Add: CP & OH @15%					=	Rs.1.09					
	Gross Total					=	Rs.8.34					
	Add GST @ 18%						Rs.1.50					
	Net including 18% GST						Rs.9.84					
5	Cost for making, supplying and fitting of Lower & upper bronze bush of							4	Nos.	each	Rs.758.97	Rs.3,035.88
	ID 20 mm	OD 28mm	length 25mm									
	Analysis											
	Weight of bronze rod of OD 37mm x length 50mm x density 8780 kg/m3											
	$= \pi/4 \times 37 \times 37 \times 50 \times 8780/m^3$					=	0.47					
	Cost	@	Rs.850.00	per kg		=	Rs.399.50					
	cost for cutting, finishing and machining work for make bush as per size @ 40 %						Rs.159.80					
				Total		=	Rs.559.30					
	Add CP & O.H @ 15%					=	Rs.83.90					
	Gross Total					=	Rs.643.20					
	Add GST @ 18%					=	Rs.115.78					
	Net including 18% GST						Rs.758.97					
6	Supply & fitting of Thrust Plate with counter thrust complete set							1	Nos.	each	Rs.1,000.00	Rs.1,000.00
7	Cost for making all arrangement tools & skilled workmanship for making coil of copper wire as per required size and rewinding of stator.							18	Nos.	each	Rs.40.00	Rs.720.00
8	Cost for insulating materials and jointing materials Such as PVC paper. sleeve, cotton tap, PVC tap, soldering wire, flux & rubber compound etc. as required at the time of rewinding.							1	Job	P/Job	Rs.500.00	Rs.500.00
9	Cost for transportation charge of 3 HP Sub Motor including loading unloading all complete and carrying from pump house to firm workshop and back to pump house after rewinding.							1	Job	P/Job	Rs.1,000.00	Rs.1,000.00
10	Providing all labours, tools and tackles at site for lowering of 3 HP Submersible motor pump with column pipe into the Tubwell, doing all electric connection, re-fitting nut bolt & refitting deleviry line & testing on											
	Analysis											

(i) Mechanic for 1 days	1	No.	@	Rs.473.00	=	Rs.473.00	1	Job	P/Job	Rs.1,887.59	Rs.1,887.59
(ii) Unskilled Helper for 1 days	3	No.	@	Rs.306.00	=	Rs.918.00					
				Total		Rs.1,391.00					
Add: CP & OH @15%					=	Rs.208.65					
Grass Total						Rs.1,599.65					
Add GST @ 18%					=	Rs.287.94					
Net including 18% GST						Rs.1,887.59					
										Total	Rs.15,740.18
										Say	Rs.15,740.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate - 19**Repairing Of Starter**

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	Providing all labours, tools & tackles for repairing of 3 HP starter with supply, changing and fitting magnet coil 1 No, 1 No over load relay unit (8.9-13.5) Amp, 2 No push button, Voltmeter - 1 No, Ameter - 1 No and changing all internal wiring with suitable PVC wire and strip as required	1 Job	P/Job	1500	1500
Total Rs.					Rs.1,500.00

Junior Engineer**Assistant Engineer****Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate - 20

Repairing Of Stabilizer

Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3		4	5	6
1	Repairing of 7.5 KVA automatic voltage stabilizer with 12 % GST including CP & OH	1	Job	P/Job	3000	3000
Total Rs.						Rs.3,000.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Est. No. 21						
Estimate for supply service cable from nearest source up-to pumping station.						
Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3		4	5	6
1	Supplying & fitting 2.5 mm ² copper service cable from power point from nearest source up-to pumping station.	50	mtrs	P/Mt	Rs.130.00	Rs.6,500.00
					Total Rs.	Rs.6,500.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate - 22

Name of Work :- Cleaning of one 5000 Ltr capacity overhead pvc tank with bleaching powder, scrubbing of surface with coconut brush including marking the date of cleaning with stencil and paint all complete as per the direction of Engineer In Charge.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1 (14.75A)	Cleaning of terrace/loft water storage tank (inside surface area) upto 2000 ltr capacity at all heights with coconut brushes duster etc, removal of silt, rubbing from the tank and cleaning the tank with fresh water disinfecting with bleaching powder @ 0.5 gm per ltr capacity of tank, including marking the date of cleaning on the side of tank body with the help of stencil and paint and disposing the malba, all complete as per direction of Engineer In Charge.	5000 Ltr	P/Ltr	0.1	500
Total Rs.					Rs.500.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate :- 23A

ANALYSIS OF LEAKAGE REPAIRING IN 90 MM DIAMETER HDPE PIPE (For pipe laid at 0.5 to 1.0m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
1. (2.28)	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
	90 mm dia Pipe 3x0.3x1.0x1=	0.9	M ³		
		0.9	M ³		
	Add 5% extra for fittings =	0.045	M ³		
	Total=	0.945	M ³	P/M ³	Rs.360.70 Rs.340.86
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.				
		0.926	M ³	P/M ³	Rs.123.90 Rs.114.74
3	Providing material for leakage repairing D- jointers				
	90 mm dia Pipe	3	Nos	Each	Rs.606.00 Rs.1,818.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
Grand Total for 03 Leakages without PCC cutting in One day =					Rs.3,594.61
For 01 Leakage without PCC cutting =					Rs.1,198.00
1 15.2.1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
5(a) 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
Total for PCC Cutting & Restoration					Rs.1,162.56
Grand Total for 03 Leakages with PCC cutting in One day					Rs.4,757.16
For 01 Leakage with PCC cutting					Rs.1,586.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate :- 23B

ANALYSIS OF LEAKAGE REPAIRING IN 75 MM DIAMETER HDPE PIPE (For pipe laid at 0.5 to 1.0m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in				
1.	depth 1.5 in width as well as 10 sqm on plan) including				
(2.28)	disposal of excavated earth lead upto 50m and lift upto				
	1.5m, disposal earth to be levelled and neatly dressed.				
	75 mm dia Pipe 3x0.3x1.0x1=	0.9	M ³		
		0.9	M ³		
	Add 5% extra for fittings =	0.045	M ³		
	Total=	0.945	M ³	P/M ³	Rs.360.70 Rs.340.86
	Filling available excavated earth (excluding rock) in				
	trenches, plinth, sides of foundations etc. in layers not				
2	exceeding 20cm in depth, consolidating each deposited				
	layer by ramming and watering, lead up to 50 m and lift				
	upto 1.5 m.				
		0.926	M ³	P/M ³	Rs.123.90 Rs.114.74
3	Providing material for leakage repairing				
	D- jointers				
	75 mm dia Pipe	3	Nos	Each	Rs.588.00 Rs.1,764.00
4	Providing Labour for leakage repairing				
0L27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
0L70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
0L05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,540.61
	For 01 Leakage without PCC cutting =				Rs.1,180.00
	Demolishing cement concrete manually/by mechanical				
1	means including disposal of material within 50 metres				
15.2.	lead as per direction of Engineer - in - charge.(in 10%				
1	length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
	Providing and laying in position cement concrete of				
	specified grade excluding the cost of centering and				
5(a)	shuttering all work upto plinth level.				
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone				
	aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
	Carriage of the following materials from quarry to work				
	site including loading, unloading and staking at work site				
5(b)	as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,703.16
	For 01 Leakage with PCC cutting				Rs.1,568.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate :- 23C

ANALYSIS OF LEAKAGE REPAIRING IN 63 MM DIAMETER HDPE PIPE (For pipe laid at 0.5 to 1.0m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
1.	63 mm dia Pipe 3x0.3x1.0x1=	0.9	M ³		
		0.9	M ³		
	Add 5% extra for fittings =	0.045	M ³		
	Total=	0.945	M ³	P/M ³	Rs.360.70
					Rs.340.86
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	0.926	M ³	P/M ³	Rs.123.90
					Rs.114.74
3	Providing material for leakage repairing D- jointers				
	63 mm dia Pipe	3	Nos	Each	Rs.535.00
					Rs.1,605.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00
					Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00
					Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00
					Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,381.61
	For 01 Leakage without PCC cutting =				Rs.1,127.00
1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
15.2.1	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90
					Rs.131.07
5(a)	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10
					Rs.539.74
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880
					Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840
					Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,544.16
	For 01 Leakage with PCC cutting				Rs.1,515.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

Sub Estimate :- 23D

ANALYSIS OF LEAKAGE REPAIRING IN 50 MM DIAMETER HDPE PIPE (For pipe laid at 0.5 to 1.0m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
1.	50 mm dia Pipe 3x0.3x1.0x1=	0.9	M ³		
		0.9	M ³		
	Add 5% extra for fittings =	0.045	M ³		
	Total=	0.945	M ³	P/M ³	Rs.360.70
					Rs.340.86
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	0.926	M ³	P/M ³	Rs.123.90
					Rs.114.74
3	Providing material for leakage repairing D- jointers				
	50 mm dia Pipe	3	Nos	Each	Rs.504.00
					Rs.1,512.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00
					Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00
					Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00
					Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,288.61
	For 01 Leakage without PCC cutting =				Rs.1,096.00
1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
15.2.1	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
5(a)	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10
4.1.3					Rs.539.74
	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
5(b)	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840
					Rs.127.26
					Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,451.16
	For 01 Leakage with PCC cutting				Rs.1,484.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

Sub Estimate :-23E

ANALYSIS OF LEAKAGE REPAIRING IN 40 MM DIAMETER HDPE PIPE (For pipe laid at 0.5 to 1.0m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in				
1.	depth 1.5 in width as well as 10 sqm on plan) including				
(2.28)	disposal of excavated earth lead upto 50m and lift upto				
	1.5m, disposal earth to be levelled and neatly dressed.				
	50 mm dia Pipe 3x0.3x1.0x1=	0.9	M ³		
		0.9	M ³		
	Add 5% extra for fittings =	0.045	M ³		
	Total=	0.945	M ³	P/M ³	Rs.360.70 Rs.340.86
	Filling available excavated earth (excluding rock) in				
2	trenches, plinth, sides of foundations etc. in layers not				
	exceeding 20cm in depth, consolidating each deposited				
	layer by ramming and watering, lead up to 50 m and lift				
	upto 1.5 m.	0.926	M ³	P/M ³	Rs.123.90 Rs.114.74
3	Providing material for leakage repairing				
	D- jointers				
	50 mm dia Pipe	3	Nos	Each	Rs.478.00 Rs.1,434.00
4	Providing Labour for leakage repairing				
0L27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
0L70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
0L05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,210.61
	For 01 Leakage without PCC cutting =				Rs.1,070.00
1	Demolishing cement concrete manually/by mechanical				
15.2.1	means including disposal of material within 50 metres				
	lead as per direction of Engineer - in - charge.(in 10%				
	length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
	Providing and laying in position cement concrete of				
5(a)	specified grade excluding the cost of centering and				
4.1.3	shuttering all work upto plinth level.				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
	aggregate 40mm nominal size)				
	Carriage of the following materials from quarry to work				
	site including loading, unloading and staking at work site				
5(b)	as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,373.16
	For 01 Leakage with PCC cutting				Rs.1,458.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

Sub Estimate :- 24A

ANALYSIS OF LEAKAGE REPAIRING IN 90 MM DIAMETER HDPE PIPE (For pipe laid at 0.0 to 0.5m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
1. (2.28)	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
	90 mm dia Pipe 3x0.3x1.0x0.5=	0.45	M ³		
		0.45	M ³		
	Add 5% extra for fittings =	0.0225	M ³		
	Total=	0.4725	M ³	P/M ³	Rs.360.70 Rs.170.43
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.				
		0.463	M ³	P/M ³	Rs.123.90 Rs.57.37
3	Providing material for leakage repairing D- jointers				
	90 mm dia Pipe	3	Nos	Each	Rs.606.00 Rs.1,818.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
Grand Total for 03 Leakages without PCC cutting in One day =					Rs.3,366.80
For 01 Leakage without PCC cutting =					Rs.1,122.00
1 15.2.1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
5(a) 4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
Total for PCC Cutting & Restoration					Rs.1,162.56
Grand Total for 03 Leakages with PCC cutting in One day					Rs.4,529.36
For 01 Leakage with PCC cutting					Rs.1,510.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate :- 24B

ANALYSIS OF LEAKAGE REPAIRING IN 75 MM DIAMETER HDPE PIPE (For pipe laid at 0.0 to 0.5 m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in				
1.	depth 1.5 in width as well as 10 sqm on plan) including				
(2.28)	disposal of excavated earth lead upto 50m and lift upto				
	1.5m, disposal earth to be levelled and neatly dressed.				
	75 mm dia Pipe 3x0.3x1.0x0.5=	0.45	M ³		
		0.45	M ³		
	Add 5% extra for fittings =	0.0225	M ³		
	Total=	0.4725	M ³	P/M ³	Rs.360.70 Rs.170.43
	Filling available excavated earth (excluding rock) in				
	trenches, plinth, sides of foundations etc. in layers not				
2	exceeding 20cm in depth, consolidating each deposited				
	layer by ramming and watering, lead up to 50 m and lift				
	upto 1.5 m.				
		0.463	M ³	P/M ³	Rs.123.90 Rs.57.37
3	Providing material for leakage repairing				
	D- jointers				
	75 mm dia Pipe	3	Nos	Each	Rs.588.00 Rs.1,764.00
4	Providing Labour for leakage repairing				
0L27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
0L70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
0L05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,312.80
	For 01 Leakage without PCC cutting =				Rs.1,104.00
	Demolishing cement concrete manually/by mechanical				
1	means including disposal of material within 50 metres				
15.2.	lead as per direction of Engineer - in - charge.(in 10%				
1	length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
	Providing and laying in position cement concrete of				
	specified grade excluding the cost of centering and				
5(a)	shuttering all work upto plinth level.				
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone				
	aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
	Carriage of the following materials from quarry to work				
	site including loading, unloading and staking at work site				
5(b)	as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,475.36
	For 01 Leakage with PCC cutting				Rs.1,492.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate :- 23C

ANALYSIS OF LEAKAGE REPAIRING IN 63 MM DIAMETER HDPE PIPE (For pipe laid at 0.0 to 0.5m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
1.	63 mm dia Pipe 3x0.3x1.0x0.5=	0.45	M ³		
		0.45	M ³		
	Add 5% extra for fittings =	0.0225	M ³		
	Total=	0.4725	M ³	P/M ³	Rs.360.70
					Rs.170.43
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	0.463	M ³	P/M ³	Rs.123.90
					Rs.57.37
3	Providing material for leakage repairing D- jointers				
	63 mm dia Pipe	3	Nos	Each	Rs.535.00
					Rs.1,605.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00
					Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00
					Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00
					Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,153.80
	For 01 Leakage without PCC cutting =				Rs.1,051.00
1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
15.2.1	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90
					Rs.131.07
5(a)	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10
					Rs.539.74
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880
					Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840
					Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,316.36
	For 01 Leakage with PCC cutting				Rs.1,439.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

Sub Estimate :- 23D

ANALYSIS OF LEAKAGE REPAIRING IN 50 MM DIAMETER HDPE PIPE (For pipe laid at 0.0 to 0.5m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
1.	50 mm dia Pipe 3x0.3x1.0x0.5=	0.45	M ³		
		0.45	M ³		
	Add 5% extra for fittings =	0.0225	M ³		
	Total=	0.4725	M ³	P/M ³	Rs.360.70
					Rs.170.43
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	0.463	M ³	P/M ³	Rs.123.90
					Rs.57.37
3	Providing material for leakage repairing D- jointers				
	50 mm dia Pipe	3	Nos	Each	Rs.504.00
					Rs.1,512.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00
					Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00
					Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00
					Rs.612.00
	Grand Total for 03 Leakages without PCC cutting in One day =				Rs.3,060.80
	For 01 Leakage without PCC cutting =				Rs.1,020.00
1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)				
15.2.1	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90
					Rs.131.07
5(a)	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work upto plinth level.				
4.1.3	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size)	0.135	M ³	P/M ³	Rs.3,998.10
					Rs.539.74
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880
					Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840
					Rs.364.48
	Total for PCC Cutting & Restoration				Rs.1,162.56
	Grand Total for 03 Leakages with PCC cutting in One day				Rs.4,223.36
	For 01 Leakage with PCC cutting				Rs.1,408.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

Sub Estimate :-23E

ANALYSIS OF LEAKAGE REPAIRING IN 40 MM DIAMETER HDPE PIPE (For pipe laid at 0.0 to 0.5m)

SL NO	Particulars	Quantity	Units	Rate	Amounts
	Earthwork in excavation over areas (exceeding 30 cm in				
1.	depth 1.5 in width as well as 10 sqm on plan) including				
(2.28)	disposal of excavated earth lead upto 50m and lift upto				
	1.5m, disposal earth to be levelled and neatly dressed.				
	50 mm dia Pipe 3x0.3x1.0x0.5=	0.45	M ³		
		0.45	M ³		
	Add 5% extra for fittings =	0.0225	M ³		
	Total=	0.4725	M ³	P/M ³	Rs.360.70 Rs.170.43
	Filling available excavated earth (excluding rock) in				
2	trenches, plinth, sides of foundations etc. in layers not				
	exceeding 20cm in depth, consolidating each deposited				
	layer by ramming and watering, lead up to 50 m and lift				
	upto 1.5 m.	0.463	M ³	P/M ³	Rs.123.90 Rs.57.37
3	Providing material for leakage repairing				
	D- jointers				
	50 mm dia Pipe	3	Nos	Each	Rs.478.00 Rs.1,434.00
4	Providing Labour for leakage repairing				
OL27	Plumber	1	Nos	Each	Rs.391.00 Rs.391.00
OL70	Semi Skilled Labour	1	Nos	Each	Rs.318.00 Rs.318.00
OL05	Helper	2	Nos	Each	Rs.306.00 Rs.612.00
Grand Total for 03 Leakages without PCC cutting in One day =					Rs.2,982.80
For 01 Leakage without PCC cutting =					Rs.994.00
1	Demolishing cement concrete manually/by mechanical				
15.2.1	means including disposal of material within 50 metres				
	lead as per direction of Engineer - in - charge.(in 10%				
	length)				
	1:3:6 or richer mix 3x0.3x1.0x0.15=	0.135	M ³	P/M ³	Rs.970.90 Rs.131.07
5(a)	Providing and laying in position cement concrete of				
4.1.3	specified grade excluding the cost of centering and				
	shuttering all work upto plinth level.				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone	0.135	M ³	P/M ³	Rs.3,998.10 Rs.539.74
	aggregate 40mm nominal size)				
5(b)	Carriage of the following materials from quarry to work				
	site including loading, unloading and staking at work site				
	as per specification & direction of E/I.				
	Coarse Sand (100 Km pucca Carriage)	0.061	M ³	P/M ³	2094.880 Rs.127.26
	Stone chips (150 Km pucca Carriage)	0.122	M ³	P/M ³	2999.840 Rs.364.48
Total for PCC Cutting & Restoration					Rs.1,162.56
Grand Total for 03 Leakages with PCC cutting in One day					Rs.4,145.36
For 01 Leakage with PCC cutting					Rs.1,382.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West,

SUB ESTIMATE NO - 26						
Repairing of riser and delivery pipe with CPVC pipe and providing gun metal Gate valve.						
S.No.	Description	Qty		Unit	Rate	Amount
1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
18.7.6	Riser Pipe 50mm dia nominal bore	1.00	M	PM	Rs.791.00	Rs.791.00
18.9.7	Delivery Pipe 80mm dia nominal bore	1.00	M	PM	Rs.1,889.50	Rs.1,889.50

Replacement of Gun metal Gate valve. (50 mm dia.)						
S.No.	Description	Qty		Unit	Rate	Amount
1 . Chattisgarh SOR	Providing and fixing G. I. Union in G.I. Pipe line i/c cutting threading testing etc. complete (Old work) confirming to IS1879					
6.23	50mm dia	1	No.	each	Rs.677.00	Rs.677.00
2. Chattisgarh SOR	Providing and fixing G. I. socket in G.I. Pipe line i/c cutting threading testing etc. complete (Old work) confirming to IS 1879					
6.25	50mm dia	1	No.	each	Rs.140.00	Rs.140.00
3 BCD SOR	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
18.17.4	50 mm nominal bore					Rs.925.27
					Total	Rs.1,742.27
					Say	Rs.1,742.00

Replacement of Gun metal Gate valve. (80 mm dia.)						
1. Chattisgarh SOR	Providing and fixing G. I. Union in G.I. Pipe line i/c cutting threading testing etc. complete (Old work) confirming to IS1879					
6.23	80mm dia	1	No.	each	Rs.1,641.00	Rs.1,641.00
2. Chattisgarh SOR	Providing and fixing G. I. socket in G.I. Pipe line i/c cutting threading testing etc. complete (Old work) confirming to IS 1879					
6.25	80mm dia.	1	No.	each	Rs.272.00	Rs.272.00
3 BCD SOR	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
18.17.4	80 mm nominal bore	1	No.	each	Rs.2,227.60	Rs.2,347.00
					Total	Rs.4,260.00
					Say	Rs.4,260.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate- 27**Development of 150mm x 100mm dia H/Y Tube well**

S.No.	Description	Qty.	Unit	Rate	Amount
1	Providing all materials, tools and tackles at site for opening all electrical connections of 3 HP Sub Motor and dismantling of delivery line & taken out submersible motor Pump with column pipe from Tube Well.	1.0 Job	P/Job	Rs.1,887.59	Rs.1,887.59
2 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	8 Hrs.	P/H	Rs.916.80	Rs.7,334.40
3	Transportation and erection of developing equipments & all other required tools and M/C by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1 No.	Each	Rs.5,000.00	Rs.5,000.00
4	Providing all labours, tools and tackles at site for lowering of 3 HP Submersible motor pump with column pipe into the Tubwell, doing all electric connection, re-fitting nut bolt & refitting delivery line & testing on load	1.0 Job	P/Job	Rs.1,887.59	Rs.1,887.59
TOTAL					Rs.16,109.57
				Say	Rs.16,110.00

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. 28

Repair of RCC Staging 4.0M x 3.0M x 8.0M High

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A	Earth work in excavation in foundation trenches or				
2.8.1	drains(not exceeding 1.5 m in width or 10 sqm on plan)				
	In foundation				
	4 1.95 1.95 1.35 = 20.53				
	2 2.30 0.25 0.25 = 0.29				
	2 1.30 0.25 0.25 = 0.16				
	1 1.00 1.00 0.575 = 0.58				
	1 1.20 0.90 0.275 = 0.30				
	21.86				
		M	P/M	Rs.360.70	Rs.0.00
1B	Filling available excavated earth (excluding rock) in				
2.26	trenches, plinth, sides of foundations etc. in layers not				
		M	P/M	Rs.123.90	Rs.0.00
2-	Providing clean coarse sand filling in foundation				
2.28	trenches or in plinth including ramming & watering as				
	Steps				
	1 1.20 0.90 0.10 = 0.108				
	In Foundation of column				
	4 1.95 1.95 0.10 = 1.521				
	In Ladder fixing block at GL				
	1 1 1 0.10 = 0.100				
	Under Tie beam at G.L.				
	2 3.95 0.25 0.10 = 0.198				
	2 2.95 0.25 0.10 = 0.148				
	In Plinth				
	1 4.00 3.00 0.28 = 3.360				
	5.434				
		M ³	P/M ³	Rs.287.30	Rs.0.00
3-	Providing designation of 100A Brick flat Soling joints				
11.72	filled with local sand including cost of watering, taxes &				
	Steps				
	1 1.20 0.90 = 1.08				
	In Foundation of column				
	4 1.95 1.95 = 15.21				
	In Ladder fixing block at GL				
	1 1.00 1.00 = 1				
	Under Tie beam at G.L.				
	2 3.95 0.25 = 1.975				
	2 2.95 0.25 = 1.475				
	In Plinth				
	1 4.00 3.00 = 12.00				
	32.74				
		M ²	P/M ²	Rs.283.30	Rs.0.00
4-	Providing and laying in position cement concrete of				
4.1.3	specified grade excluding the cost of centering and				
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone				
	Steps				
	1 1.20 0.90 0.10 = 0.11				
	In Foundation of column				
	4 1.95 1.95 0.075 = 1.14				
	In Ladder fixing block at GL				
	1 1.00 1.00 0.40 = 0.40				
	Under Tie beam at G.L.				
	2 3.95 0.25 0.10 = 0.20				
	2 2.95 0.25 0.10 = 0.15				
	In Plinth				
	1 4.00 3.00 0.10 = 1.20				
	3.19				
		M ³	P/M ³	Rs.3,998.10	Rs.0.00
4A-	Providing and laying in position reinforced cement				
5.1.2	concrete of specified grade excluding the cost of				
	1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone				
	No Length Width Height (av.) Sub Qty.				
	In foundation				
	4 1.80 1.80 0.30 = 3.888				
	4 0.45 0.45 0.15 = 0.1215				
	4 0.30 0.30 0.65 = 0.234				
	In Tie beam at G.L.				
	2 3.95 0.25 0.35 = 0.691				

	2	2.95	0.25	0.35	=	0.516				
						5.451	M ³	P/M ³	Rs.4,688.30	Rs.0.00
4 B-	Centring and shuttering including strutting, propping									
5.9.5	etc. and removal of form for:									
	Lintels, beams, plinth beams etc.									
	In foundation									
	16.0	1.8	0.30		=	8.64				
	16.0	0.45	0.15		=	1.08				
	16.0	0.30	0.65		=	3.12				
	In Tie beam at G.L.									
	4	3.95	0.35		=	5.53				
	4	2.95	0.35		=	4.13				
						22.500	M ²	P/M ²	Rs.404.70	Rs.0.00
5-	Providing designation 100A brick work in C.M. (1:6) in									
6.1.14	Brick work with bricks of class designation 100A in									
A	Cement mortar 1:6 (1 Cement : 6 Sand)									
	No	Length	Width	Height (av.)		Sub Qty.				
	Long Wall									
	2	3.95	0.25	0.150	=	0.296				
	Short Wall									
	2	2.95	0.25	0.150	=	0.221				
	In steps									
	1	1.2	0.90	0.15	=	0.162				
	1	1.2	0.60	0.15	=	0.108				
	1	1.2	0.30	0.15	=	0.054				
						0.842	M ³	P/M ³	Rs.4,819.90	Rs.0.00
6 A-	Providing and laying in position Reinforced cement									
5.1.2	concrete of specified grade excluding the cost of									
	1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone									
	In Column up to PL									
	4	0.30	0.30	0.45	=	0.162				
	In band at plinth									
	2	3.95	0.25	0.075	=	0.148				
	2	2.95	0.25	0.075	=	0.111				
						0.421	M ³	P/M ³	Rs.4,688.30	Rs.0.00
6B	Extra for providing and mixing water proofing material									
4.12	in cement concrete work in the proportion									
	recommended by the manufacturers.									
6 C-	Centering and shuttering including strutting, propping									
5.9.5	etc. and removal of form for:									
	Lintels, beams, plinth beams etc.									
	In Column up to PL									
	16	0.3	0.45		=	2.160				
	In band at plinth									
	4	3.95	0.075		=	1.185				
	4	2.95	0.075		=	0.885				
						4.230	M ²	P/M ²	Rs.404.70	Rs.0.00
7 A-	Reinforced cement concrete work in wall (any									
5.2.2	thickness), including attached pilasters, buttresses,									
	1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone									
	No	Length	Width	Height (av.)		Sub Qty.				
	In band at Lintels level									
	2	1.5	0.25	0.10	=	0.075				
	In beam B1, B2									
	2	4.50	0.25	0.20	=	0.450				
	2	3.00	0.25	0.20	=	0.300				
	In beam B3, B4									
	2	4.50	0.25	0.30	=	0.675				
	2	3.00	0.25	0.30	=	0.450				
	In beam B5, B6									
	2	5.00	0.25	0.25	=	0.625				
	2	3.00	0.25	0.25	=	0.375				
	In Column from PL to Roof level									
	4	0.3	0.3	8.00	=	2.880				
	For parapet post									
	8	0.125	0.125	0.85	=	0.106				
						5.936	M ³	P/M ³	Rs.5,670.00	Rs.0.00

7 B- Centering and shuttering including strutting, propping
5.9.5 etc. and removal of form for:

Lintels, beams, plinth beams etc.

In Column up to Roof level

16	0.3	8.00	=	38.400
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In beams

4	4.00	0.20	=	3.200
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4	3.00	0.20	=	2.400
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6	4.50	0.30	=	8.100
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6	3.50	0.30	=	6.300
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6	5.00	0.25	=	7.500
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6	3.50	0.25	=	5.250
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In band at lintel

4	1.50	0.10	=	0.600
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For parapet post

32	0.125	0.85	=	3.400
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75.150

M ²	P/M ²	Rs.404.70	Rs.0.00
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8 A- Reinforced cement concrete work in beams,suspended
5.3 floors, roofs having slope upto 15, landings,balconiec,

No	Length	Width	Height (av.)	Sub Qty.
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Chajja

2	1.10	0.45	0.063	= 0.062
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In shelves

4	1.05	0.45	0.063	= 0.119
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0.181

M ³	P/M ³	Rs.5,335.90	Rs.0.00
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8 B- Centering and shuttering including strutting, propping
5.9.3 etc. and removal of form for:

Chajja

2	1.10	0.450	=	0.990
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2	1.10	0.500	=	1.100
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4	0.45	0.063	=	0.113
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2.203

M ²	P/M ²	Rs.437.50	Rs.0.00
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9- Brick work with bricks of class designation 100A in

6.1.14 Cement mortar 1:6 (1 Cement : 6 Sand)

B + Extra for brick work in superstructure above plinth upto

2	3.95	0.25	2.70	= 5.333
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2	2.95	0.25	2.70	= 3.983
---	------	------	------	---------

In shelves

2	0.20	0.125	2.10	= 0.105
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Deduction

9.420

For door

1	0.90	0.25	2.10	= 0.473
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For window

1	0.90	0.25	1.20	= 0.270
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Total deduction

0.743

Net Quantity

8.678

M ³	P/M ³	Rs.4,540.30	
		Rs.803.20	
		Rs.5,343.50	Rs.0.00

10 A- Providing R.C.C. M-200 with nominal mix of (1:1.5:3)
5.2.2 in roof slab

No	Length	Width	Height (av.)	Sub Qty.
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Roof Slab

1	5.00	3.50	0.15	= 2.625
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1	4.70	3.70	0.10	= 1.739
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Landing

3	0.60	0.60	0.15	= 0.162
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4.526

M ³	P/M ³	Rs.5,670.00	Rs.0.00
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10 B- Centring and shuttering including strutting, propping

5.9.3 etc. and removal of form for:

In Roof slab

No	Length	Width	Height (av.)	Sub Qty.
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1	4.5	3.00	=	13.500
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1	4.2	3.20	=	13.440
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2	5.00	0.15	=	1.500
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2	3.50	0.15	=	1.050
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2	4.70	0.10	=	0.940
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2	3.70	0.10	=	0.740
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3	0.60	0.60	=	1.080
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3	0.60	0.15	=	0.270
---	------	------	---	-------

6	0.60	0.15	=	0.540
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					33.060	M ²	P/M ²	Rs.437.50	Rs.0.00
11-	Reinforcement for RCC work including straghtening,								
5.22.7	cutting, bending & placing in position and binding all								
A	complete.								
	6 mm to 16 mm tor steel								
	Total Reinforcement.								
					=	Kg.	P/Kg.	Rs.94.50	Rs.0.00
12-A	Providing and fixing 1mm thick M.S. sheet door with								
10.5.1	frame of 40x40x6mm angle iron and 3mm M.S. gusset								
	plates at the junctions and corners, all necessary								
Door D	1	0.9	2.1	=	1.890				
Window	1	0.9	1.2	=	1.080				
					2.970	2.970 M ³	P/M ³	Rs.3,653.00	Rs.10,849.41
12-B	Providing and fixing the M.S. grill of required pattern in								
9.48.1	frames of windows etc. with M.S. flat. Square or round								
	bars etc. all complete								
	fixed to steel windows by welding.								
	No	Length	Width	Height (av.)	Sub Qty.				
	For windows								
	1	1.20	x	0.90	= 1.08 M ²				
					@ 25 Kg/M ²				
					27.00	27.00 Kg.	P/Kg.	Rs.144.50	Rs.3,901.50
13-	Providing precast cement concrete jali 1:2:4 reinforced								
5.18.3	with 1.6mm mild steel wire including roughening								
	cleaning, fixing and finishing in cement mortar 1:3 etc.								
	25mm thick								
	No	Length	Width	Height (av.)	Sub Qty.				
	2	0.45		0.45	= 0.405	M ²	P/M ²	Rs.835.80	Rs.0.00
14-A	Providing 6 mm thick cement plaster to ceiling of mix								
13.24.	No	Length	Width	Height (av.)	Sub Qty.				
	1	4.50	3.00		= 13.50				
	1	4.20	3.20		= 13.44				
	2	5.00	0.15		= 0.75				
	2	3.50	0.15		= 0.53				
	2	4.70	0.10		= 0.47				
	2	3.70	0.10		= 0.37				
	3	0.60	0.60		= 0.36				
	9	0.60	0.15		= 0.09				
					29.51	29.51 M ²	P/M ²	Rs.125.60	Rs.3,705.83
14-B	12mm Cment plaster in coarse sand								
13.11.	1:6 (1cement : 6 Coarse Sand)								
	No	Length	Width	Height (av.)	Sub Qty.				
	In side								
	2	4.00		2.68	= 21.440				
	2	3.00		2.68	= 16.080				
	2	2.10		0.25	= 1.050				
	2	1.20		0.25	= 0.600				
	3	0.90		0.25	= 0.675				
	Outside								
	2	4.50		3.00	= 27.000				
	2	3.50		3.00	= 21.000				
	Chajja								
	2	1.10		0.450	= 0.990				
	1	1.10		0.500	= 0.550				
	2	0.45		0.063	= 0.057				
	In Column								
	16	0.3		5.00	= 24.000				
	In beams								
	4	4.00		0.20	= 3.200				
	4	4.00		0.25	= 4.000				
	4	3.00		0.20	= 2.400				
	4	3.00		0.25	= 3.000				
	6	4.50		0.25	= 6.750				
	6	3.00		0.25	= 4.500				
	In steps								
	1	0.90		0.15	= 0.135				
	1	0.60		0.15	= 0.090				
	1	0.30		0.15	= 0.045				

Sub Est. No. 29									
Road Restoration in place of Damaged portion of existing pipeline network									
S.N.	Particulars					Quantity	Unit	Rate	Amount
1 15.2.1	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.(in 10% length)								
	1:3:6 or richer mix								
	Existing Pipe Line	100	0.30	0.15	=	4.500			
							M ³	P/M ³	970.90
5(a) 4.1.3	Providing and laying in position cement concrete of specified 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm					4.500	M ³	P/M ³	3998.10
									17991.45
5(b)	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.								
	Coarse Sand (100 Km pucca Carriage)					2.025	M ³	P/M ³	Rs.2,094.88
	Stone chips (150 Km pucca Carriage)					4.050	M ³	P/M ³	Rs.2,999.84
	Sub-Total								34382.93
	Total								34382.93
	Say Rs.								Rs.34,383.00
								per meter	Rs.343.83

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No.- 31									
ESTIMATE FOR THE REPAIRING OF SWITCH CUM ATTENDANT ROOM 6.00 M X 4.00 M X 3.50 M (High) with TOILET									
S.N. Code No.	Particulars				Quantity	Unit	Rate	Amount	
1 13.74	Removing white or color wash by scraping and sand preparing the surface smooth including necessary repair of scratches etc. all complete.								
	No	Length	Width	Height (av.)	Sub Qty.				
	Room(ceiling)								
	1	6.00	4		=	24.000			
	1	1.80	1.2		=	2.160			
	Outside projection								
	2	6.30	0.30		=	3.780			
	2	4.30	0.30		=	2.580			
	Chajja								
	2	1.20	0.60		=	1.440			
	2	0.90	0.60		=	1.080			
						35.040			
	In side								
	2	6.00		3.50	=	42.000			
	2	4.00		3.50	=	28.000			
	2	1.80		3.50	=	12.600			
	2	1.20		3.50	=	8.400			
	Outside								
	2	6.00		3.50	=	42.000			
	2	4.00		3.50	=	28.000			
	3	1.80		3.50	=	18.900			
	Deduction					179.900			
	Door								
	1	0.90		2.10	=	1.890			
	1	0.75		2.10	=	1.575			
	Windows								
	1	1.20		1.20	=	1.440			
	1	0.50		0.60	=	0.300			
	Steps								
	2	1.05		0.60	=	1.260			
				Net Deduction		6.465			
				Net Surface		208.475	208.475 M ²	P/M ²	Rs.7.70
									Rs.1,605.26
04- 13.11.4	Cement plaster in coarse sand 1:6 (1cement : 6 Coarse Sand)								
	No	Length	Width	Height (av.)	Sub Qty.				
	In side								
	2	6.00		3.50	=	42.000			
	2	4.00		3.50	=	28.000			
	2	1.80		3.50	=	12.600			
	2	1.20		3.50	=	8.400			
	Outside								
	2	6.00		3.50	=	42.000			
	2	4.00		3.50	=	28.000			
	3	1.80		3.50	=	18.900			
	Deduction					179.900			
	(i) Door								
	1	0.90		2.10	=	1.890			
	1	0.75		2.10	=	1.575			
	(ii) Windows								
	1	1.20		1.20	=	1.440			
	1	0.50		0.60	=	0.300			
	(iii) Steps								
	2	1.05		0.60	=	1.260			
				Net Deduction		6.465			
				Net Plaster		173.435			
				50% of total area:		86.718	86.718 M ²	P/M ²	Rs.141.50
									Rs.12,270.53
07- 13.79.2	Finishing walls with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade								
	Old work (one or more coats)				208.48	M ²	M ²	Rs.61.10	Rs.12,737.82
8	Providing lighting arrangement both inside & outside the attendant room including fitting & fixing two nos., tube lights inside the pump house ad one no. of Vapor Halogen light outside with all necessary electrical power wiring with suitable PVC sheathed copper conductor of ISI mar as per direction of E/I.				1	No.	Each	Rs.5,000.00	Rs.5,000.00
	Total								Rs.31,613.61

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No:-32

REPAIR & PAINTING OF 1.5M (High) COMPOUND WALL

S.N. Code No.	Particulars						Quantity		Unit	Rate	Amount
	Taking length of compound wall					29.000	M				
	Taking height of compound wall					1.500	M				
6	Brick work with bricks of class designation 100A in foundation and plinth in :										
6.1.14A	Cement mortar 1:6 (1 Cement : 6 Sand)										
	No	Length	Width	Height (av.)		Sub Qty.					
	1	8.5	0.375	0.165	=	0.526					
	1	8.5	0.375	0.165	=	0.526					
	1	12.0	0.375	0.165	=	0.743					
						1.794					
	25% work to be done for repairing						0.449	M ³	P/M ³	Rs.4,819.90	Rs.2,162.18
7	Brick work with bricks of class designation 100A in										
6.1.14A	Cement mortar 1:6 (1 Cement : 6 Sand)										
+	Extra for brick work in superstructure above plinth upto V										
6.3A	No	Length	Width	Height (av.)		Sub Qty.					
Pillar	11	0.250	0.25	1.500	=	1.031					
Wall	1	29	0.125	1.500	=	5.438					
						6.469					
	35% work to be done for repairing						2.264	M ³	P/M ³	Rs.842.20	Rs.1,906.79
8-	Cement plaster in coarse sand										
13.11.4	1:6 (1cement : 6 Coarse Sand)										
	No	Length	Width	Height (av.)		Sub Qty.					
Wall	2	29		1.500	=	87.000					
	25% extra for crown										
						195.750	195.750	M ²	P/M ²	Rs.141.50	Rs.27,698.63
9	Finishing walls with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade										
13.79.2	Old work (one or more coats)						195.750	M ²	M ²	Rs.61.10	Rs.11,960.33
	Supplying and filling in compound wall by local sand in low land including watering, etc all complete.										
11	Carriage of the following materials from quarry to work site										
	(a) Bricks (7 Km. Pucca & 1 Km. Kaccha lead)						2150	Nos.	%0 nos.	Rs.963.04	Rs.2,070.54
	(b) Coarse sand (44 Km pucca & 1 km kaccha Carriage)						4.000	M ³	P/M ³	Rs.1,120.60	Rs.4,482.40
	Total Rate for 29M long compound wall =										Rs.50,280.86
	So Rate per M of compound wall =										Rs.1,733.82
	Total cost of 29M long compound wall =								Rs.50,280.86		

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. - 33										
CAMPUS DEVELOPMENT										
S.N.	Particulars					Quantity		Unit	Rate	Amount
1 2.28(i)	Supplying and filling in compound wall by local sand in low land including watering, etc all complete.					33.6	M ³	P/M ³	Rs.287.30	Rs.9,653.28
	earth filling in campus									
		10.00	8.00	0.60	= 48					
	Deduct	4.00	6.00	0.60	= 14.4					
	total 33.6									
2 11.72 (i)	Brick flat soaling inside campus					56.000	M ²	P/M ²	Rs.283.00	Rs.15,848.00
		10.00	8.00	0.00	= 80					
	Deduct	4.00	6.00	0.00	= 24					
	total 56									
3	Carriage of the following material from quarry to work site including loading and unloading									
	(a) Bricks (7 Km. Pucca & 1 Km. Kaccha lead)					1960	Nos.	%0 nos.	Rs.1,077.20	Rs.2,111.31
	(b) Local sand (7 Km. Pucca & 1 Km. Kaccha lead)					33.600	M ³	P/M ³	Rs.278.08	Rs.9,343.49
								Total	Rs.27,302.80	

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Est. No-34

Model estimate for supply, installation & commissioning of single phase 2 H.P submersible motor pump set with all accessories including extension of L.T. line from nearest source up-to pumping station.

Sl. No.	Particulars	Quantity		Unit	Rate	Amount
1	2	3		4	5	6
[A]	Supply Installation, commissioning and testing of single phase 2 H.P. submersible pump set having discharging capacity 3 lps at a total head of 45 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I.	1	job	Each	Rs.88,500.00	Rs.88500.00
	(i) 50 mm dia x 3 mtrs long medium class G.I column pipe both end threaded and one end socketed- 6(six)nos	1	No			
	(ii) 1x3x2.5 mm ² flat copper conductor submersible cable -40 (forty) mtrs.					
	(iii) 50 mm dia union socket- 1(one) no.					
	(iv) 65 mm dia x 250 mm long G.I. nipple- 1 (one) no.					
	(v) 50 mm dia G.I Elbow—1(One) no.					
	(vi) 50 mm dia M.S. clamps—2(Two) Pairs.					
	(vii) 50 mmx 250 mm long G.I nipple- 1(One) no.					
	(viii) Tube well cap for 125 mm dia T/Well – 1(one) no.					
	(ix) 50 mm dia x 65 mm dia reducer socket –1(one) no.					
[B]	Supply Installation, commissioning and testing of floor mounted outdoor type L.T feeder pillar single phase starter controll pannel operated on 220 V, 3 phase , 50 c/s for 2 HP Submersible pump set made of MS sheet (minimum 2 mm thick) duly spray power coated painting with following accessories made of M.S sheet (minimum 2mm thick) duly spray powder coated painting with following accessories	1	No			
	(i) 90-220 V range single phase 7.5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked If any. 1 No.					
	(ii) Suitable single phase starter control panel for above motor of BCH /L&Tmake – 1(one) no.	1				
[C]	Supplying & fitting 2.5 mm ² copper service cable from power point from nearest source up-to pumping station..	20	mtrs			
[D]	Providing all materials and labour required for doing earthing station with G.I earth pipe of 40 mm dia x 4.5 mtrs 20fts. long G.I pipe including accessories excavation of earth , providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.with salt, charcoal,etc.as per IE & IS specification.	1	No			
						Rs.88500.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub-Estimate No. - 35						
Supplying, installation Testing & commissioning of Solar Pannel plate						
S.N.	Particulars	Quantity		Unit	Rate	Amount
1	Supplying and installation of Solar pannel plate of capacity 315 Watts each (1 nos x 315 W = 945W)	315	W	P/watt	Rs. 50.00	Rs. 15,750.00
TOTAL						Rs. 15,750.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No. - 36						
Supplying, installation Testing & commissioning of Varriable Frequency Drive (VFD), Change over Switch and Net Energy Metering (NEM) system						
S.N.	Particulars	Quantity		Unit	Rate	Amount
1	Supplying anf installation of VARRIABLE FREQUENCY DRIVE (VFD) of 2 H.P. Single Phase Motor range 220 V , 50 HZ , 2900 RPM for submersible pump set.	1	No.	Each	Rs. 35,212.00	Rs. 35,212.00
2	Supplying and installation 32 Amp 2 Pole Single Phase Change over switch.	1	No.	Each	Rs. 2,985.00	Rs. 2,985.00
3	Provision of Net Energy Metering (NEM) system including all accessories.	1	No.	Each	Rs. 22,253.00	Rs. 22,253.00
TOTAL						Rs. 60,450.00

Junior Engineer

Assistant Engineer

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Est. No.- 37						
Providing and Fixing 12 VOLT Solar Battery						
S.N. Code No.	Particulars	Quantity		Unit	Rate	Amount
1	Providing and fixing 12 Volt Solar Battery 200 Ah all complete as per Direction of E/I	1	No.	Each	Rs. 35,000.00	Rs. 35,000.00
TOTAL						Rs.35,000.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate-38

ANALYSIS OF RATES FOR LEKAGE REPIAR IN DIFFERENT SIZES OF LEAD JOINT G.I. PIPES

S.No.	Pipe Size	PCC Road Cutting (15.2.1) and restoring (4.1.3)		Jointing with cost of labour, Union socket, spun yarn, hemp & tools	Rate With PCC Rd Cutting	Rate Without Rd Cutting
		Size of Tench	Qty			
1	40mm dia	1.0M x 1.0Mx.15M =	0.15	1		
			911.4	137	820	
		1:2:4 with 20 mmnominal size)	3953.4	593		
		carriage				
		Coarse Sand (Lead - 44 Km pucca & 1 km kaccha)	Rs.802.89	54		
		Stone chips (Lead - 195 Km pucca & 5 km unsurfaced)	Rs.2,983.84	403		
			1187	820	2007	820
2	50mm dia	1.0M x 1.0Mx.15M =	0.15	1		
			911.4	137	890	
		1:2:4 with 20 mmnominal size)	3953.4	593		
		carriage				
		Coarse Sand (Lead - 44 Km pucca & 1 km kaccha)	802.89	54		
		Stone chips (Lead - 195 Km pucca & 5 km unsurfaced)	2983.84	403		
			1187	890	2077	890
3	65mm dia	1.0M x 1.0Mx.15M =	0.15	1		
			911.4	137	1180	
		1:2:4 with 20 mmnominal size)	3953.4	593		
		carriage				
		Coarse Sand (Lead - 44 Km pucca & 1 km kaccha)	Rs.802.89	54		
		Stone chips (Lead - 195 Km pucca & 5 km unsurfaced)	Rs.2,983.84	403		
			1187	1180	2367	1180
4	80mm dia	1.0M x 1.0Mx.15M =	0.15	1		
			911.4	137	1250	
		1:2:4 with 20 mmnominal size)	3953.4	593		
		carriage				
		Coarse Sand (Lead - 44 Km pucca & 1 km kaccha)	802.89	54		
		Stone chips (Lead - 195 Km pucca & 5 km unsurfaced)	2983.843	403		
			1187	1250	2437	1250

Executive Engineer,
P.H.Division, Patna West, Patna

Sub Estimate-38

ANALYSIS OF RATES FOR LEKAGE REPIAR IN DIFFERENT SIZES OF LEAD JOINT G.I. PIPES

1	40 mm dia nominal bore				
	Materials-				
	40 mm dia Union (1645)	each	1.00	192.00	192.00
	White lead, hemp, Oil etc .	each	1.00	3.00	3.00
	Labour for cutting & theading of GI Pipes				
	Plumber (OL27)	each	0.10	367.00	36.70
	U/S labour (OL02)	each	0.10	287.00	28.70
	Add for contractor's profit & overheads @ 15%				39.06
	Trenching and refilling etc.				
	1.0M x 1.0Mx 1.1 =	Cum	1.100	360.70	396.77
	Refilling	Cum	1.078	116.50	125.59
	Cost for I leakage reapiir				821.82
	Cost for 1 leakage repair			Rs.	<u>820.00</u>
2	50 mm dia nominal bore				
	Materials-				
	50 mm dia Union (1646)	each	1.00	249.00	249.00
	White lead, hemp, Oil etc .	each	1.00	3.00	3.00
	Labour for cutting & theading of GI Pipes				
	Plumber (OL27)	each	0.10	367.00	36.70
	U/S labour (OL02)	each	0.10	287.00	28.70
	Add for contractor's profit & overheads @ 15%				47.61
	Trenching and refilling etc.				
	1.0M x 1.0Mx 1.1 =	Cum	1.100	360.70	396.77
	Refilling	Cum	1.078	116.50	125.59
	Cost for I leakage reapiir				887.37
	Cost for 1 leakage repair			Rs.	<u>890.00</u>
3	65 mm dia nominal bore				
	Materials-				
	65 mm dia Union (1647)	each	1.00	504.00	504.00
	White lead, hemp, Oil etc .	each	1.00	3.00	3.00
	Labour for cutting & theading of GI Pipes				
	Plumber (OL27)	each	0.10	367.00	36.70
	U/S labour (OL02)	each	0.10	287.00	28.70
	Add for contractor's profit & overheads @ 15%				85.86
	Trenching and refilling etc.				
	1.0M x 1.0Mx 1.1 =	Cum	1.100	360.70	396.77
	Refilling	Cum	1.078	116.50	125.59
	Cost for I leakage reapiir				1180.62
	Cost for 1 leakage repair			Rs.	<u>1180.00</u>
4	80 mm dia nominal bore				
	Materials-				
	80 mm dia Union (1648)	each	1.00	563.00	563.00
	White lead, hemp, Oil etc .	each	1.00	3.00	3.00
	Labour for cutting & theading of GI Pipes				
	Plumber (OL27)	each	0.10	367.00	36.70
	U/S labour (OL02)	each	0.10	287.00	28.70
	Add for contractor's profit & overheads @ 15%				94.71
	Trenching and refilling etc.				
	1.0M x 1.0Mx 1.1 =	Cum	1.100	360.70	396.77
	Refilling	Cum	1.078	116.50	125.59
	Cost for I leakage reapiir				1248.47
	Cost for 1 leakage repair			Rs.	<u>1250.00</u>

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Est. No. 39

CLEANING OF RCC water storage VAT

S.N.	Particulars	Quantity	Unit	Rate	Amount
1	Providing all labours, materials and cleaning of tank from inside and doing chlorination etc. all complete work as per specification & direction of E/I.				
	10000 Lit	10000 Ltr	P/Ltr	Rs.0.10	Rs. 1,000.00
	Total-				Rs. 1,000.00

**Executive Engineer,
P.H.Division, Patna West,**

Sub Estimate No.40

Construction of 200mm x 150mm dia & 125M deep H/Y Tube well

S.No.	Description	Qty.	Unit	Rate	Amount	
1	Providing all materials, labours, & equipments for drilling by reverse rotary rig machine for following dia bore hole in all kind of soil mixed with kanker, sand stone including providing sample box, and collection strata sample at every 3.0M depth of drilling for asserting proper aquifer for completing high yielding T/well etc. as per IS:2800-1979 & PHED specification and direction of E/I.					
24.1.1.3	(a) 400mm dia bore from G.L. to 30M	30.0	M	P/M	Rs.681.50	Rs.20,445.00
24.1.1.2	(b) 350 mm dia bore from 30M to 90M	60.0	M	P/M	Rs.532.40	Rs.31,944.00
24.2.1.2	(c) 350 mm dia bore from 90M to 125M	35.0	M	P/M	Rs.659.50	Rs.23,082.50
2	Supplying, assembling, lowering abd fixing in vertical position in borewell, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS:12818, including required hire and labour charges, fittings & accessories etc. all complete for all depths, as per direction of E/I.					
24.3.3	(a) 200mm x 5mm thick pipe I.S.I. mark	30.0	M	P/M	Rs.940.80	Rs.28,224.00
24.3.2	(a) 150mm x 5mm thick pipe I.S.I. mark	60.0	M	P/M	Rs.660.10	Rs.39,606.00
3	Supplying, assembling, lowering abd fixing in vertical position in borewell, unplasticized PVC medium well screen (RMS) pipes with ribs,conforming to IS:12818, including hire and labour charges, fittings & accessories etc. all complete for all depths, as per direction of E/I.					
24.4.2	150 mm dia and 1mm slot	30.0	M	P/M	Rs.673.50	Rs.20,205.00
4	Providing all tools and labour including supplying fitting & fixing the following accessories for aforesaid 200mm x 150 mm T/Well as per direction of E/I.					
L.S	(a) 200 mm x 150 mm dia M.S Reducer	1	No.	Each	Rs.500.00	Rs.500.00
L.S	(b) 200 mm dia M.S. well cap	1	No.	Each	Rs.260.00	Rs.260.00
24.15.2	(c) 150 mm dia M.S well shoe plug	1	Nos.	Each	Rs.281.80	Rs.281.80
L.S	(d) Center guide suitable for 200 mm dia pipe	3	Nos.	Each	Rs.150.00	Rs.450.00
L.S	(e) Center guide suitable for 150 mm dia pipee	8	No.	Each	Rs.100.00	Rs.800.00
24.14.3	(f) M.S clamp 200 mm dia	1	No.	P.Pair	Rs.1,738.00	Rs.1,738.00
5a	Providing all materials, labours, & tools for providing	12.0	M ³	P/M ³	Rs.1,343.20	Rs.16,118.40
24.8	and placing around tubewell double washed pea gravel confirming to IS:8419-1977 of size 4mm to 8mm from dalbhumgarh of east singhbhum (JH) inclusive of loading, carriage, unloading & stacking inproper shape for measurement at site. (Stock measurement of clean and washed gravel shall be taken 13" as 12" in height to count void) as per direction of E/I					
5b	Carriage of Pea Gravel from Dhalbhumigarh (taken distance 480km.Pakka+5Km unsurface road) (1.6*(480*11.20+5*13.50)+195.10)=8904.70+1% L.Cess+12%-GST)=Rs.10,062.31	12.0	M ³	P/M ³	Rs.10,062.31	Rs.120,747.72

S.No.	Description	Qty.	Unit	Rate	Amount
6 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	24 Hrs.	Each	Rs.916.80	Rs.22,003.20
7	Transportation and erection of drilling plants, developing equipments & all other required tools and M/C by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1 No.	Each	Rs.9,200.00	Rs.9,200.00
8	Supplying all materials and labours for arrangement for additional water required during the drilling period for 80 Hrs & site clearance & leveling etc. all complete work as per specification & direction of E.I.	1 Job	Each	Rs.25,000.00	Rs.25,000.00
9	Chemical and bacteriological testing of water sample including the cost of collection, carrying to designed PHE laboratories and submission of report in triplicate as per direction of E/I.	1 No.	Each	Rs.500.00	Rs.500.00
				TOTAL	Rs.361,105.62
				Say	Rs.361,106.00

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate No.41

Construction of 200mm x 150mm dia & 125M deep H/Y Tube well

S.No.	Description	Qty.	Unit	Rate	Amount
1	Providing all materials, labours, & equipments for drilling by Reverse Rotary rig machine for following dia bore hole in all kind of soil mixed with kanker, sand stone including providing sample box, and collection strata sample at every 3.0M depth of drilling for asserting proper aquifer for completing High Yielding Tube Well all complete as per IS:2800-1979 & PHED specification and direction of E/I.				
24.1.1.3	(a) 400mm dia bore from G.L. to 30M	30.0 M	P/M	Rs.681.50	Rs.20,445.00
24.1.1.2	(b) 350 mm dia bore from 30M to 90M	60.0 M	P/M	Rs.532.40	Rs.31,944.00
24.2.1.2	(c) 350 mm dia bore from 90M to 125M	35.0 M	P/M	Rs.659.50	Rs.23,082.50
2	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric resistance welded) EF 410 mild screwed and socketted/plain ended casing pipes of required dia confirming to IS:4270 of reputed and approved make including painted with outside surface with two coats of anti corrosive paint of approved brand and manufacturer including hire & labour charges, fitting & accessories all complete for all depth as per direction fo E/I.				
24.10.3	(a) 200mm x 5.4mm thick M.S.E.R.W. housing pipe	36.0 M	P/M	Rs.2,003.70	Rs.72,133.20
24.10.2	(b) 150mm x 5.0mm thick M.S.E.R.W. housing pipe	54.0 M	P/M	Rs.1,408.10	Rs.76,037.40
3	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed / plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture,including hire & labour charges, fittings & accessories, all complete,for all depths, as per direction of Engineer -in-charge.				
24.11.2	150 mm nominal size dia	30.0 M	P/M	Rs.1,727.20	Rs.51,816.00
4	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.				
	(a) 200 mm x 150 mm dia MS reducer	1 No.	Each	Rs.1,000.00	Rs.1,000.00
24.13.3	(b) 200 mm dia well cap	1 No.	Each	Rs.281.00	Rs.281.00
24.15.3	(c) Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I). 200mm dia	1 No.	Each	Rs.281.80	Rs.281.80
	(d) 200 mm dia center guide	4 Nos.	Each	Rs.250.00	Rs.1,000.00
	(e) 150 mm dia center guide	9 Nos.	Each	Rs.150.00	Rs.1,350.00
24.14.3	(f) Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete 200 mm	1 No.	Each	Rs.1,738.00	Rs.1,738.00

S.No.	Description	Qty.	Unit	Rate	Amount
5a 24.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	12.0 M ³	P/M ³	Rs.1,343.20	Rs.16,118.40
5b	Carriage of Pea Gravel from Dhalbhumigarh (taken distance 480km.Pakka+5Km unsurface road) (1.6*(480*11.20+5*13.50)+195.10)=8904.70+1% L.Cess+12%-GST)=Rs.10073.00	12.0 M ³	P/M ³	Rs.10,073.00	Rs.120,876.00
6- 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	24 Hrs.	Each	Rs.916.80	Rs.22,003.20
7	Transportation and erection of drilling plants, developing equipments & all other required tools and M/C by suitable mechanical means including all cost loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1 No.	Each	Rs.9,200.00	Rs.9,200.00
8	Supplying all materials and labours for arrangement for additional water required during the drilling period for 80 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 No.	Each	Rs.25,000.00	Rs.25,000.00
9	Chemical and bacteriological testing of water sample including the cost of collection, carrying to designated PHE/other laboratory and submission of reports in triplicate as per direction of E/I.	1 No.	Each	Rs.500.00	Rs.500.00
TOTAL					Rs.474,806.50
SAY					Rs.474,807.00

Junior Engineer

Assistant Engineer

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate No.42**Construction of 300mm x 200mm dia & 125M deep H/Y Tube well**

S.No.	Description	Qty.	Unit	Rate	Amount
1	Providing all materials, labours, & equipments for drilling by Reverse Rotary rig machine for following dia bore hole in all kind of soil mixed with kanker, sand stone including providing sample box, and collection strata sample at every 3.0M depth of drilling for asserting proper aquifer for completing High Yielding Tube Well all complete as per IS:2800-1979 & PHED specification and direction of E/I.				
	(a) 650 mm dia bore from G.L. to 30M	30.0 M	P/M	Rs.2,102.00	Rs.63,060.00
	(b) 600 mm dia bore from 30M to 90M	60.0 M	P/M	Rs.1,402.00	Rs.84,120.00
	(c) 600 mm dia bore from 90M to 150M	35.0 M	P/M	Rs.1,402.00	Rs.49,070.00
2	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric resistance welded) EF 410 mild screwed and socketted/plain ended casing pipes of required dia confirming to IS:4270 of reputed and approved make including painted with outside surface with two coats of anti corrosive paint of approved brand and manufacturer including hire & labour charges, fitting & accessories all complete for all depth as per direction fo E/I.				
	(a) 300mm x 6mm thick M.S.E.R.W blank pipe (TATA OR JINDAL and I.S.I mark.	30.0 M	P/M	Rs.3,406.00	Rs.102,180.00
24.10.3	(b) 200mm x 5.4mm thick M.S.E.R.W. housing pipe	60.0 M	P/M	Rs.2,003.70	Rs.120,222.00
3	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed / plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture,including hire & labour charges, fittings & accessories, all complete,for all depths, as per direction of Engineer -in-charge.				
24.11.3	200 mm nominal size dia	30.0 M	P/M	Rs.2,119.10	Rs.63,573.00
4	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.				
	(a) 300 mm x 200 mm dia MS reducer	1 No.	Each	Rs.710.00	Rs.710.00
	(b) 300 mm dia well cap	1 No.	Each	Rs.700.00	Rs.700.00
24.15.3	(c) Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I). 200mm dia	1 No.	Each	Rs.308.50	Rs.308.50
	(d) 300 mm dia center guide	3 Nos.	Each	Rs.350.00	Rs.1,050.00
	(e) 200 mm dia center guide	10 Nos.	Each	Rs.250.00	Rs.2,500.00
24.14.2	(f) Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete 300 mm	1 No.	Each	Rs.1,738.00	Rs.1,738.00

S.No.	Description	Qty.	Unit	Rate	Amount
5a 24.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	15.0 M ³	P/M ³	Rs.1,343.20	Rs.20,148.00
5b	Carriage of Pea Gravel from Dhalbhumigarh (taken distance 480km. Pakka+5Km unsurface road) (1.6*(480*11.20+5*13.50)+195.10)=8904.70+1% L.Cess+12%-GST)=Rs.10,062.31	15.0 M ³	P/M ³	Rs.10,062.31	Rs.150,934.65
6- 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	30 Hrs.	Each	Rs.916.80	Rs.27,504.00
7	Transportation and erection of drilling plants, developing equipments & all other required tools and M/C by suitable mechanical means including all cost loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1 No.	Each	Rs.14,000.00	Rs.14,000.00
8	Supplying all materials and labours for arrangement for additional water required during the drilling period for 80 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 No.	Each	Rs.25,000.00	Rs.25,000.00
9	Chemical and bacteriological testing of water sample including the cost of collection, carrying to designated PHE/other laboratory and submission of reports in triplicate as per direction of E/I.	1 No.	Each	Rs.500.00	Rs.500.00
TOTAL					Rs.727,318.15
SAY					Rs.727,318.00

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub Estimate No.43**Construction of 450mm x 300mm dia & 125M deep H/Y Tube well**

S.No.	Description	Qty.	Unit	Rate	Amount
1	Providing all materials, labours, & equipments for drilling by Reverse Rotary rig machine for following dia bore hole in all kind of soil mixed with kanker, sand stone including providing sample box, and collection strata sample at every 3.0M depth of drilling for asserting proper aquifer for completing High Yielding Tube Well all complete as per IS:2800-1979 & PHED specification and direction of E/I.				
	(a) 900 mm dia bore from G.L. to 30M	30.0 M	P/M	Rs.3,000.00	Rs.90,000.00
	(b) 600 mm dia bore from 30M to 90M	60.0 M	P/M	Rs.1,402.00	Rs.84,120.00
	(c) 600 mm dia bore from 90M to 150M	35.0 M	P/M	Rs.1,402.00	Rs.49,070.00
2	Supplying all materials & providing all equipment & labours and lowering the following pipe with socket and cutting the pipe for required size as per approved assay and strata chart including welding along with the socket/MS Ring and strip as per required etc.all complete as per S/D of E/I.				
	(a) 450mm x 7mm thick M.S.E.R.W housing pipe (TATA OR JINDAL and I.S.I mark).	30.0 M	P/M	Rs.9,944.68	Rs.298,340.40
	(b) 300mm x 6mm thick M.S.E.R.W blank pipe (TATA OR JINDAL and I.S.I mark).	60.0 M	P/M	Rs.3,406.00	Rs.204,360.00
	(c) 300mm x 6mm thick M.S slotted pipe I.S.I mark including cost at slotted pipe as per standard design as per S/D of E/I. (Johnson make)	30.0 M	P/M	Rs.6,945.26	Rs.208,357.80
3	Providing all tools and labour including supplying fitting & fixing the following accessories for aforesaid 450mm x 300mm T/Well as per direction of E/I.				
	(a) 450 mm dia M.S. well cap	1 No.	Each	Rs.950.00	Rs.950.00
	(b) M.S clamp set of required Dia as per IS 2800 including necessary bolts and nuts required	1 No.	P.Pair	Rs.1,600.00	Rs.1,600.00
	(c) M.S Centre guide suitable for 450mm dia pipe	4 Nos.	Each	Rs.375.00	Rs.1,500.00
	(d) M.S Centre guide suitable for 300mm dia pipe	6 Nos.	Each	Rs.350.00	Rs.2,100.00
	(e) 450mm x 300 mm dia 6 mm wall thickness M.S Reducer	1 No.	Each	Rs.1,800.00	Rs.1,800.00
	(f) 300 mm dia & 6 mm thick M.S shoe plug	1 Nos.	Each	Rs.975.00	Rs.975.00
4a 24.8	Providing all materials, labours, & tools for providing and placing around tubewell double washed pea gravel confirming to IS:8419-1977 of size 4mm to 8mm from dalbhumgarh of east singhbhum (JH) inclusive of loading, carriage, unloading & stacking in proper shape for measurement at site. (Stock measurement of clean and washed gravel shall be taken 13" as 12" in height to count void) as per direction of E/I.	30.0 M ³	P/M ³	Rs.1,343.20	Rs.40,296.00
4b	Carriage of Pea Gravel from Dhalbhumigarh (taken distance 480km.Pakka+5Km unsurface road) (1.6*(480*11.20+5*13.50)+195.10)=8904.70+1% L.Cess+12%-GST)=Rs.10,062.31	30.0 M ³	P/M ³	Rs.10,062.31	Rs.301,869.30

S.No.	Description	Qty.	Unit	Rate	Amount
5 24.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sample & getting tested in approved laboratory, i/c disinfection of tubewell, all complete,including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	72 Hrs.	Each	Rs.916.80	Rs.66,009.60
6	Transportation and erection of drilling plants, developing equipments & all other required tools and M/C by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I.	1 No.	Each	Rs.14,000.00	Rs.14,000.00
7	Supplying all materials and labours for arrangement for additional water required during the drilling period for 80 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 Job	Each	Rs.25,000.00	Rs.25,000.00
TOTAL					Rs.1,390,348.10
Say					Rs.1,390,348.00

**Executive Engineer,
P.H.Division, Patna West, Patna**

Sub-Estimate No.-44
Painting of 10000 Gallon Water Tower

S.N.	Description	Quantity	Unit	Rate	Amount
Water Tower					
<u>1</u> <u>14.75A</u>	Providing all labours, material and cleaning of tank from inside and doing chlorination etc. all complete as per specification & direction of E/I. 10000 Gallon x 4.54 Lit/Gallon =	45400.00 Ltr	P/Ltr	Rs.0.20	Rs.9,080.00
<u>2</u>	Removing white or color wash by scraping and sand preparing the surface smooth including necessary repair of scratches etc. all complete.				
13.74	Column 6 Nos. x 3.14 x 0.35 x 18	118.69			
	Bracings 3 Nos.x 2 x 3.14 x 2.975 x 2 x (.25+.4)=	78.47			
	Bottom Dome 2 x 3.14 x 5.501 x(1.04-.15)	30.75			
	Bottom Ring Beam 2 x 3.14 x 2.975 x (0.35+2x0.75)=	34.56			
	Top Dome 2 x 3.14 x5.626 x 1.04=	36.74			
	Cylindrical Wall 2 x 3.14 x 3.15 x 3.24	64.09			
	Roof Dome Beam 2 x 3.14 x 3.20 x (0.2+2x.05)	6.03			
	Walk way both side 2 x 3.14 x (3.15+1.00)x (3.15-1.00)=	56.03			
	Border of Walky Way 2 x 3.14 x 4.15 x 0.1	2.61			
	Stair Landing 2 Nos. x 2 x 2.75 x 1.5	16.5			
Office Accomodation					
	Wall (inner & outer) 6 Nos.x 2 x 2.76 x 3.75 =	124.20			
	roof ceiling 3.14 x (2.725) ² =	23.75			
	Chhaja (door+window) 0.6 x 1.2 x 1.15 + 3 Nos.(0.9 x .45 x 1.15)	2.23			
	Deduction				
	Door & Window 1.2 x 2.1 + 3 x 0.9 x 1.2	5.76			
		588.89 M ²	P/M ²	Rs.7.70	Rs.4,534.44
3 5.11.1	Providing materials for extra scaffolding for exterior surface of each consecutive floor etc. all complete. (2 x 3.14 x 3 x 18.54)	349.29 M ²	P/M ²	Rs.174.00	Rs.60,777.09
4 13.78.1	Applying one coat of cement primer of approved brand and manufacture on wall surface: Cement primer	588.89 M ²	P/M ²	Rs.38.60	Rs.22,731.09
5 14.66.1	Finishing walls with Acrylic Smooth exterior paint of required shade: Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) onexisting cement paint surface On old work	588.89 M ²	P/M ²	Rs.81.70	Rs.48,112.18
13.79.3	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint approved brand and manufacture on old work: (including extra cost of scaffolding)				
13.79.4	100 mm dia 2 Nos. x 15M	30 M	P/M	Rs.15.90	Rs.477.00
13.79.5	150 mm dia 1No. x 15M	15 M	P/M	Rs.23.00	Rs.345.00
13.79.6	Providing all labours, materilas and scaffolding for wirting work for the monogram of P.H.E.D with capacity of water tower & name of division on both visible sides of Water Tower and also on pump chamber.	1 Job	Each	Rs.7,500.00	Rs.7,500.00
13.79.7	Providing all labours, materials for fixing perforrated mosquitto jali on ventilator shaft.	1 Job	Each	Rs.1,000.00	Rs.1,000.00
13.79.8	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality on ladder, railing, boundary wall grill etc.				
13.79.9	Old steel work (one or more coats)	25 M ²	M ²	Rs.54.10	Rs.1,352.50
				Total	Rs.155,909.30
				Add 5.36%	Rs.8,356.74
				Grand Total	Rs.164,266.03
				Say	Rs.164,266.00

Sub-Estimate No.-45
Painting of 20000 Gallon Water Tower

S.N.	Description	Quantity	Unit	Rate	Amount
Water Tower					
1	Providing all labours, material and cleaning of tank from inside and doing chlorination etc. all complete as per specification & direction of E/I. 20000 Gallon x 4.54 Lit/Gallon =	90800.00	Ltr P/Ltr	Rs.0.20	Rs.18,160.00
2	Removing white or color wash by scraping and sand prepairing the surface smooth including necessary repair of scratches etc. all complete.				
13.74	Column 6 Nos. x 3.14 x 0.35 x 15	98.91			
	Bracings 3 Nos.x 2 x 3.14 x 2.975 x 2 x (.25+.4)=	78.47			
	Bottom Dome 2 x 3.14 x 5.682 x(0.965-.15)	29.08			
	Bottom Ring Beam 2 x 3.14 x 2.975 x (0.35+2x1.1)=	47.64			
	Top Dome 2 x 3.14 x5.807 x 0.94=	34.28			
	Cylindrical Wall 2 x 3.14 x 3.15 x 4.665	92.28			
	Roof Dome Beam 2 x 3.14 x 3.20 x (0.2+2x.05)	6.03			
	Walk way both side 2 x 3.14 x (3.15+1.00)x (3.15-1.00)=	56.03			
	Border of Walky Way 2 x 3.14 x 4.15 x 0.1	2.61			
	Stair Landing 2 Nos. x 2 x 2.75 x 1.5	16.5			
Office Accomodation					
	Wall (inner & outer) 6 Nos.x 2 x 2.76 x 3.75 =	124.20			
	roof ceiling 3.14 x (2.725) ² =	23.75			
	Toilet 2 x (1.2 x 2.1 + 2.5 x 2.1)	15.54			
	Chhaja (door+window) 0.6 x 1.2 x 1.15 + 3 Nos.(0.9 x .45 x 1.15)	2.23			
	Deduction				
	Door & Window 1 x 2.1 + 3 x 0.9 x 1.2	5.76			
		621.78 M ²	P/M ²	Rs.7.70	Rs.4,787.74
3	Providing materials for extra scaffolding for exterior surface of each consecutive floor etc. all complete. (2 x 3.14 x 3 x 18.54)	349.29 M ²	P/M ²	Rs.174.00	Rs.60,777.09
4	Applying one coat of cement primer of approved brand and				
13.78.1	manufacture on wall surface:	621.78 M ²	P/M ²	Rs.38.60	Rs.24,000.88
	Cement primer				
5	Finishing walls with Acrylic Smooth exterior paint of required shade: Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm)				
	onexisting cement paint surface				
14.66.1	On old concrete work	621.78 M ²	P/M ²	Rs.81.70	Rs.50,799.80
6-	Painting with ready mixed paint of approved brand and				
13.82.3	manufacture in all				
	In Door				
	1 2.25 1.00 2.10 = 4.725				
	In windows				
	3 2.25 0.90 1.20 = 7.290				
	In Grill				
		3.240			
		15.255	15.26 M ²	P/M ²	Rs.48.00
					Rs.732.24

7	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint approved brand and manufacture on old work: (including extra cost of scaffolding)					
13.85.3	100 mm dia 2 Nos. x 15M	30 M	P/M	Rs.15.90		Rs.477.00
13.85.4	150 mm dia 1No. x 15M	15 M	P/M	Rs.23.00		Rs.345.00
8	Providing all labours, materilas and scaffolding for wirting work for the monogram of P.H.E.D with capacity of water tower & name of division on both visible sides of Water Tower and also on pump chamber.	1 Job	Each	Rs.7,500.00		Rs.7,500.00
10	Providing all labours, materials for fixing perforrated mosquitto jali on ventilator shaft.	1 Job	Each	Rs.1,000.00		Rs.1,000.00
11	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality on ladder, railing, boundary wall grill etc.					
13.82.3	Old steel work (one or more coats)	25.3 M ²	M ²	Rs.54.10		Rs.1,368.73
				Total		Rs.169,948.48
				Add 5.36%		Rs.9,109.24
				Grand Total		Rs.179,057.72
				Say		Rs.179,058.00

Sub-Estimate No.-46

Painting of 18 M 40000 Gallon Water Tower

S.N.	Description	Quantity	Unit	Rate	Amount
Water Tower					
1	Providing all labours, material and cleaning of tank from inside and doing chlorination etc. all complete as per specification & direction of E/I. 40000 Gallon x 4.54 Lit/Gallon =	181600.00	Ltr P/Ltr	Rs.0.20	Rs.36,320.00
2	Removing white or color wash by scraping and sand prepairing the surface smooth including necessary repair of scratches etc. all complete.				
13.74	Column 6 Nos. x 3.14 x 0.40 x 18	60.29			
	Bracings 5 Nos.x 6 x 2 x2.55 x (0.45+0.25)	107.10			
	Bottom Dome 2 x 3.14 x 5.588 x(0.935-.15)	27.55			
	Bottom Ring Beam 3.14 x (3.200+2.800) x (3.200-2.800)	7.54			
	2 x 3.14 x (3.200+2.800) x 0.950	35.80			
	Conical Wall 2 x 3.14 x (3.200+4.5)/2 x 1.75	42.31			
	Cylindrical Wall 2 x 3.14 x 4.65 x 2.1	61.32			
	Roof Dome Beam 2 x 3.14 x 4.8x0.25	7.54			
	Top Dome 2 x 3.14 x 8.638 x 1.37=	74.32			
	Walk way both side 2 x 3.14 x (5.575+4.65) x (5.575 - 4.65)	59.40			
	Border of Walky Way 2 x 3.14 x 5.575 x 0.125	4.38			
	Bottom of Walky Way 3.14 x (5.0+5.5) x (5.5-5.0)	16.49			
	Middle Ring beam 3.14 x (5.0+4.5) x (5.0-4.5)	14.92			
	2 x 3.14 x 5.0 x 0.40	12.56			
	Stair Landing 2 Nos. x 2 x 2.75 x 1.5	16.5			
Office Accomodation					
	Wall (inner & outer) 6 Nos.x 2 x 2.55 x 3.95 =	121.82			
	roof ceiling 3.14 x (2.8) ² =	24.62			
	Toilet 2 x (2.25 x 2.1 + 0.95 x 2.1)	13.44			
	Chhaja (door+window) 2 x 0.6 x1.2 x 1.15 + 3 Nos.x 2 x 1.2 x 0.45 x 1.15)	5.38			
	Deduction				
	Door & Window 1.2 x 2.1 + 3 x 1.2 x 1.5	7.92			
		705.33	M ² P/M ²	Rs.7.70	Rs.5,431.03
3	Providing materials for extra scaffolding for exterior surface of each consecutive floor etc. all complete. (2 x 3.14 x 3 x 27.295)	526.11	M ² P/M ²	Rs.174.00	Rs.91,542.62
4	Applying one coat of cement primer of approved brand and manufacture				
13.78.1	on wall surface:	705.33	M ² P/M ²	Rs.38.60	Rs.27,225.67
	Cement primer				
5	Finishing walls with Acrylic Smooth exterior paint of required shade: Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) onexisting cement paint surface				
14.66.1	On concrete work	705.33	M ² P/M ²	Rs.81.70	Rs.57,625.32
6-	Painting with ready mixed paint of approved brand and manufacture in all				
13.82.3	shades to give an even shade				
	In Door				
	1 2.25 1.20 2.10 =	5.670			
	In windows				
	3 2.25 1.50 1.20 =	12.150			

	In Grill	3.240				
		21.060	21.06 M ²	P/M ²	Rs.48.00	Rs.1,010.88
7	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint approved brand and manufacture on old work: (including extra cost of scaffolding)					
13.85.3	100 mm dia	2 Nos. x 21M	42 M	P/M	Rs.15.90	Rs.667.80
13.85.4	150 mm dia	1No. x 21M	21 M	P/M	Rs.23.00	Rs.483.00
8	Providing all labours, materilas and scaffolding for wirting work for the monogram of P.H.E.D with capacity of water tower & name of division on both visible sides of Water Tower and also on pump chamber.		1 Job	Each	Rs.7,500.00	Rs.7,500.00
9	Providing all labours, materials for fixing perforrated mosquito jali on ventilator shaft.		1 Job	Each	Rs.1,000.00	Rs.1,000.00
10	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality on ladder, railing, boundary wall grill etc.					
13.82.3	Old steel work (one or more coats)		34.2 M ²	M ²	Rs.54.10	Rs.1,850.22
					Total	Rs.230,656.54
					Add 5.36%	Rs.12,363.19
					Grand Total	Rs.243,019.73
					Say	Rs.243,020.00

Sub-Estimate No.-47

Renovation of 50000 Gallon Water Tower

S.N.	Description	Quantity	Unit	Rate	Amount	
Water Tower						
1 14.75A	Providing all labours, material and cleaning of tank from inside and doing chlorination etc. all complete as per specification & direction of E/I. 50000 Gallon x 4.54 Lit/Gallon =	227000.00	Ltr	P/Ltr	Rs.0.20	Rs.45,400.00
2	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.					
15.56	Tank wall inner portion 2 x 3.14 x 6.0 x 5.20	195.94	M ²	P/M ²	Rs.21.70	Rs.4,251.81
3	20 mm cement plaster of mix 1:3 (1 cement: 3 coarse sand)					

13.13.1+	Tank wall inner portion 2 x 3.14 x 6.0 x 5.20	195.94 M ²	P/M ²	Rs.227.40	Rs.44,555.85
13.36	Removing white or color wash by scraping and sand preparing the surface smooth including necessary repair of scratches etc. all complete.				
4					
13.74	Column 6 Nos. x 3.14 x 0.5 x 18	169.56			
	Bracings 5 Nos.x 6 x 2 x 2.57 x (0.5+0.25)	115.65			
	Bottom Dome 2 x 3.14 x 6.069 x (1.005-.15)	32.59			
	Bottom Ring Beam 3.14 x (3.575+2.925) x (3.575-2.925)	13.27			
	2 x 3.14 x (3.575+2.925) x 1.1	44.90			
	Conical Wall 2 x 3.14 x (3.575+4.75)/2 x 2.15	56.20			
	Cylindrical Wall 2 x 3.14 x 4.9 x 3.95	121.55			
	Roof Dome Ring Beam 2 x 3.14 x 5.05x0.3	9.51			
	3.14 x (5.05+4.9) x (5.05-4.9)	4.69			
	Top Dome 2 x 3.14 x 9.019 x 1.44=	81.56			
	Walk way top side 3.14 x (5.9+4.9) x (5.9 - 4.9)	33.91			
	Border of Walky Way 2 x 3.14 x 5.9 x 0.125	4.63			
	Bottom of Walky Way 3.14 x (5.9+5.25) x (5.9-5.25)	22.76			
	Middle Ring beam 3.14 x (5.25+4.75) x (5.25-4.75)	15.70			
	2x 3.14 x 5.25x.325	10.72			
	Stair Landing	16.5			
	Removing white or color wash by scraping and sand preparing the surface smooth including necessary repair of scratches etc. all complete.				
	Wall (inner & outer) 6 Nos.x 2 x 2.57 x 3.95 =	121.82			
	roof ceiling 3.14 x (2.8) ² =	24.62			
	Toilet 2 x (2.25 x 2.1 + 0.95 x 2.1)	13.44			
	Chhaja (door+window) 2 x 0.6 x 1.2 x 1.15 + 3 Nos.x 2 x 1.2 x 0.45 x 1.15)	5.38			
	Deduction				
	Door & Window 1.2 x 2.1 + 3 x 1.2 x 1.5	7.92			
	Total Area	916.95 M ²	P/M ²	Rs.7.70	Rs.7,060.53
	Net Area to Removing	687.71			
5	Providing materials for extra scaffolding for exterior surface of each consecutive floor etc. all complete. (2 x 3.14 x 3 x 22)	414.48 M ²	P/M ²	Rs.174.00	Rs.72,119.52
5.11.1					
6	Applying one coat of cement primer of approved brand and manufacture on wall surface:	916.95 M ²	P/M ²	Rs.38.60	Rs.35,394.33
13.78.1	Cement primer				
7	Finishing walls with Acrylic Smooth exterior paint of required shade: Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) on existing cement paint surface	916.95 M ²	P/M ²	Rs.81.70	Rs.74,914.95
14.66.1	Painting with ready mixed paint of approved brand and manufacture in all				
8-	In Door				
13.82.3	1 2.25 1.20 2.10 = 5.670				
	In windows 3 2.25 1.50 1.20 = 12.150				
	In Grill 3.240				
	21.060	21.06 M ²	P/M ²	Rs.54.10	Rs.1,139.35

9	Painting (one or more coats) on rain water, soil waste and vent pipes and fittings with black anticorrosive bitumastic paint approved brand and manufacture on old work: (including extra cost of scaffolding)						
13.85.3	100 mm dia	2 Nos. x 18M	36 M	P/M	Rs.15.90	Rs.572.40	
13.85.4	150 mm dia	1No. x 18M	18 M	P/M	Rs.23.00	Rs.414.00	
10	Providing all labours, materilas and scaffolding for wirting work for the monogram of P.H.E.D with capacity of water tower & name of division on both visible sides of Water Tower and also on pump chamber.			1 Job	Each	Rs.7,500.00	Rs.7,500.00
11	Providing all labours, materials for fixing perforrated mosquito jali on ventilator shaft.			1 Job	Each	Rs.1,000.00	Rs.1,000.00
12	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality on ladder, railing, boundary wall grill etc.						
13.82.3	Old steel work (one or more coats)		35.5 M ²	P/M ²	Rs.54.10	Rs.1,920.55	
					Total	Rs.296,243.28	
					Add 5.36%	Rs.15,878.64	
					Grand Total	Rs.312,121.92	
					Say	Rs.312,122.00	