SCHEDULE OF QUANTITY

Name of Work:- Strenthening of sources of various water supoply schemes by constructing 10 Nos deep bore wells in Estimated Cost 257050.00

Earnest Money 5141.00

(SH: - Energisation of 200mm dia deep bore well including automation and laying, jointing and testing of rising main Jhanjiani I) Time 3 Months

S.No.	Description of Items	Qty.		Rate in Fig	Rate in Words.	Unit	Amount
1	Supply and erection of submersible pumping set of KSB /Kirloskar / Oswal /Hindostan/Crompton make comprising to latest relevant BIS Code. The pump should be fitted with bronze impeller of suitable alloys as per IS 8034-1979 latest suitable for Clear water having greased packed bearings and shaft with wound stator on motor side and with soft protection sleeve on pump side ensuring better life for shaft coupled to a submersible squirrel cage electric induction motor (water proof type) of required HP, RPM 2900 of as per pump make conforming to BIS 9283-1979 latest with upto date amendments, totally dust and water proof for submersible duty isolated from the pump by intermediate casing with double mechanical seal in oil chamber and grease packed lubricated bearings and provided with stainless steel thrust bearing plate to with stand non vertical loads with minimum wear and tear. It should also be fitted with a device to take up expansion of water with the heating of motor. The pump set should include water level guards, erection clamps , cable clips and depth gauge etc. and suitable for operation on data given below:- Total head = 47.85 meters Discharge = 4.00 LPS.	2 No pumping sets (Submersible type) i.e.2 x 5 = 10.00 HP	2.00			Per set	
2	Providing and fixing of control pannel for submersible pump complete with shaft and angle iron febricating dully painted and complete internal wiring and comparsing of air break starter main switch of suitable Amp meter J.P. volt meter Ammeter indicating lamps water level guard and single phase preventer pannel board for motor and tool kit box complete entire carriage complete in all respects	1.00	Nos			Each	
3	Supply of PVC joint less flat water proof cable as per BIS: 694-1990 latest with upto date amendments suitable for the pump sets offered from MCB to motor including all other electrical equipment/accessories such as thimbles, flexible pipes solder, nuts and bolts, cable glands etc laid in pipes of trenches under floor complete in all respects						
	Motor side = 4mm2	10.00	Rmt			Rmt	
	Supply side = 2.5 mm2	100.00	Rmt			Rmt	
4	Providing and fixing M.S. supporting clamps to submersible pump set including all leads and lifts.	1.00	Nos			Each	
5	Providing and fixing of M.S Nipple of upper and lowe side of pump having one side of square thread for G.I. pipe 32mm dia complete in all respects in all leads and lifts.	1.00	No.			Each	
6	Providing and fixing PVC coated rope wire 4mm dia suitable to wear the weight of submersible pump motor pump set and PVC. pipe etc. complete in all respect including entire carriage of material.	35.00	Rmt			Rmt	

RISING MAIN

1	Excavation in foundations and trenches etc.(for pipes and pits in all depths etc.) in all lifts and in all kinds of soils such as pick work, jumper work, blasting in soft/hard rock, chiseling/wedging out of rock (where blasting is prohibited)and saturated soils, stacking the excavated earth within all leads and lifts, clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required into plinths, sides of foundation and trenches etc., consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth as directed by Engineer-in-charge within all leads and lifts including uprooting of trees, dressing of beds and sides and preparation of sub-grade, restoration of unmetalled /metalled/paved surfaces to its original conditions including soring, strutting, timbering and dewatering , where ever required, providing diversion for traffic, fixing night signals, fixing caution boards, crossing over trenches for access to houses complete and to the entire satisfaction of the Engineer-in-charge.	58.50	cum	Per cum
2	Laying,jointing and testing of galvanized mild steel tube in trenches of following dia medium/light class including tube fittings and to the entire satisfaction of the Engineer-in-charge as per IS:1239 (Part-I)-1979 fully jointed with M.S.flanged of different table as per IS 6392-1971 / circumferencial butt welding including welding in two layers on both faces as per IS:816-1965,gasket sheet not less than 3mm in thickness,nuts and bolts etc.and cutting of threaded complete in all respect. (Cost of excavation, in trenches,M.S flanges, butt wellding and gasket sheet etc. to be measured and paid for separately)			
	80 mm dia medium Class	155	Rmt	Rmt
3	Providing & welding of M.S. flanges joint as per IS:6392-1971 of following dia and table with Heavy / Medium grade GMS pipe of following dia . The welding of flanges with pipe should conform to IS:816-1965 with electrode as per IS:814-1967 including required Nos. of nuts and bolts as per IS:1369-1967 and 3mm thick asbestos fibre jointing gasket sheet conforming toIS: 2712-1965. The welding of flanges should be done in two layers on both faces to make the joint air tight and to the entire satisfaction of the Engineer-in-charge including cutting of threaded ends of the pipes.			
	Dia of Pipe Table Welding code No Gasket code No.			
	80 mm dia GMS Medium) 5 816-1962 2712-1965	7	Pair	Per Pair
	(every joint at RD 0/0 to 35 mtrs in bore well & 1% joint at RD 35 to 155 mtrs)			
4	Providing circumferencial butt welding joints following dia GMS pipe (heavy class) as specified above welded with 2 layers of welding (according to wall thickness of pipes) by using 3mm to 4mm special electrodes of Advani orlion (Adore)/ ESAB make with Generator and which and crab/ loder at site (The cost of providing and laying of GMs Pipes to be measured and paid for seperately) The work shall be done as per entire satisfaction of Engineer-in-Charge with in all leads and lifts.	19	Joint	Per joint

5	Providing and fixing double flanged cast iron sluice valve of 80 dia **Leader/Kirloskar** (with hand hand wheel as per IS- 14846-2000 P.N.1 complete with nuts and bolts class including brass spindle) gasket sheet not less than 4mm thick complete in all respects in all leads and lifts (The tail pieces if required shall be measured and paid for seperately). **Flange table5**	1	No	Each
6	Providing double flanged cast iron Non return valve (Swing check type) of **Leader/Kirloskar/** make and of 80 mm dia having bye pass arrangement rising main and capable of with standing normal seat pressure as per IS: 5312-1984 (P-I) with upto date ammendments including carriage complete in all respects.	1	No	Each
7	Providing and fixing screwed cast iron air release valve 25 mm dia single ball type of **Leader/ Bir / Kirloskar make** as per BS 1452-90 with upto date ammendments as per clas PN 10.00 to with stand a seat pressure of 11.22 kg /Cm2 complete in all leads and lifts & to the entire satisfaction of the Engineer-in-Charge .	2	No	Each
8	Providing and fixing successfully testting of microprocessor based Fully automation system panel for 5 HP submersible pump for automatic operatio, control & protection of pump. The panel should be offered with programmable logic controller(PLC) Humen machine Interface, etc. fully programmable i.e. digital display connection with motor etc and all connection needed to make motor and pump run successfully. The system should be offered with cabinet, including panel board with all accessoires of reputed make with Ammeter, volt meter, push biutton, SMPS, control tranformers, Indicators , contact ports, single phase preventor, relay, selector switch etc. complete job in all respects all digital display connections must be suitable to run the motor and pump successfully all the equipments should be compaliable/ upgradable for use with future automation of system.	1	set	Per set
				Total

Terms & Conditions of Pumping machinery

1. The firm shall forward a copy of supply order/indent placed by it for the supply of pumps and motors on the manufacturers/authorized dealers of the pumps and
2. The firm shall arrange dispatch of offered pumps and motors to the consignee direct from the manufacturers/ their authorised dealer of the pumping machinery for
3. The shop test for the pumps and motors shall be carried out at manufacturers works in the presence of representative of the department as per IS: 325-1978.
4. The firm shall supply the recommended list of spares and quantities required for normal working of pumping machinery (2 years) from the manufacturers of the
5. The firm shall supply the manufacturers manuals for the operation and maintenance of the pumping equipment.
6. The firm shall arrange operation and maintenance training to the operating staff for the pumping machinery without extra cost for a period of 7 days i.e. during
7. The **characteristic curves** of the pumping equipment shall be supplied with the offer other wise the tender shall be rejected.
8. The firm shall supply layout drawing in respect of various components, such as suction pipes, valves, cable, trenches, control panel etc. from the foot valve
9. The installation of pumping machinery above 40 HP shall be inspected by the technical representative of the manufacturers of rank not less than that of a
10. All the civil work shall be constructed by the contractor
11. The wiring and installation of electric equipment shall be as per HPSEB rules and regulations & subjected to the approval of the Chief Electrical Inspector and or
12. The temporary electrical connection, if required during installation shall be arranged by the firm at its own cost and energy charges shall also be paid directly by
13. Prices of all the items shall be FOR site of work inclusive of all leads and lifts and shall be inclusive of all charges of transportation, insurance, packing, taxes and
14. The rates shall be quoted only on the format of schedule of quantities which is attached with the tender document giving all specified data so desired there in.
15. The rates offered for the specified makes in the schedule of quantities only shall be considered. Rates quoted for part and or non-specified makes shall lead to
16. The site of work is located at __Km on road _____ km from nearest raod _____ & head load is involved. The site is located _____ km
17. All the equipment material shall conform to the relevant BIS specifications wherever applicable and in its absence to any accepted / National/International standards.
18. The general specifications of work shall conform to HPIPH specifications as per direction of the Engineer-in-charge.

19 The validity of the tender shall be not less than 120 days other-wise the tender shall be summarily rejected.
20 All the equipments shall be guaranteed against any manufacturing defect including metallurgy and its performance for a period of 12 (twelve) months from the
21 The installed pumping machinery and other allied accessories shall be tested daily for stipulated pumping hours in the NIT for a period of seven days without
22 During the guarantee period efficiency of the pumping and the electric equipment should not vary beyond the range of (+/-) 2.5% If during guarantee period,
23 60%(Sixty percent) payment of the cost of pumping machinery and equipment less 10% security and other statutory recovery shall be made after receipt of complete
24 **The Rates are inclusive of all taxex including GST**
25 **Only such contractor can participate in the tender who was the authorised deler of the manufacturer of Pumping Machinery**

RISING MAIN

1 The work shall be carried out as per IPH specification and to the entire satisfaction of the Engineer-In-charge.
2 Security, income tax and GST shall be deducted on usual rates.
3 Final payment shall be released after successful testing of pipe line.
4 The contractor is fully responsible for watch & ward of his material at site of work during exection . Nothing shall be paid for rejected work .
5 The GMS pipe will be issued to the contractor free of cost from Divisional store .
6 The bend shall be provided to required degree and dia duly manufactured by the parent tuebe only conforming to ISI mark.
7 No payment shall be made to the contractor in case the bend being made by way of bending the pipe.
8 Any damage caused to metalled/ mecadam road street, path and existing structure during excution of work will be restored by the controctor /firm at its own
9 All machinery/ equipment required for laying of pipe line will be arranged by the contractor/ firm.
10 Pipe laying shall be done asper ISI standard and asper water supply mannual & no deviation is allowed without prior approval of the undersigned.
11 The testing of pipe line will be carried out by the firm at its own cost for which 5% amount will be withheld and same should be relesed after successful
12 All the joints shall be leak proof, air tight and smoke proof.

SCHEDULE OF QUANTITY

Name of Work:- Strenthening of sources of various water supoply schemes by constructing 10 Nos deep bore wells in (SH: - Energisation of 200mm dia deep bore well including automation and laying, jointing and testing of rising main Jhanjiani II)

Estimated Cost 251804.00
Earnest Money 5036.08
Time 3 Months

S.No.	Description of Items	Qty.		Rate in Fig	Rate in Words.	Unit	Amount
1	Supply and erection of submersible pumping set of KSB /Kirloskar / Oswal /Hindostan/Crompton make comprising to latest relevant BIS Code. The pump should be fitted with bronze impeller of suitable alloys as per IS 8034-1979 latest suitable for Clear water having greased packed bearings and shaft with wound stator on motor side and with soft protection sleeve on pump side ensuring better life for shaft coupled to a submersible squirrel cage electric induction motor (water proof type) of required HP, RPM 2900 of as per pump make conforming to BIS 9283-1979 latest with upto date amendments, totally dust and water proof for submersible duty isolated from the pump by intermediate casing with double mechanical seal in oil chamber and grease packed lubricated bearings and provided with stainless steel thrust bearing plate to with stand non vertical loads with minimum wear and tear. It should also be fitted with a device to take up expansion of water with the heating of motor. The pump set should include water level guards, erection clamps , cable clips and depth gauge etc. and suitable for operation on data given below:-	2 No pumping sets (Submersible type) i.e.2 x 5 = 10.00 HP	2.00			Per set	
	Total head = 60.84 meters Discharge = 3.00 LPS.						
2	Providing and fixing of control pannel for submersible pump complete with shaft and angle iron febricating dully painted and complete internal wiring and comparsing of air break starter main switch of suitable Amp meter J.P. volt meter Ammeter indicating lamps water level guard and single phase preventer pannel board for motor and tool kit box complete entire carriage complete in all respects	1.00	Nos			Each	
3	Supply of PVC joint less flat water proof cable as per BIS: 694-1990 latest with upto date amendments suitable for the pump sets offered from MCB to motor including all other electrical equipment/accessories such as thimbles, flexible pipes solder, nuts and bolts, cable glands etc laid in pipes of trenches under floor complete in all respects						
	Motor side = 4mm2	10.00	Rmt			Rmt	
	Supply side = 2.5 mm2	100.00	Rmt			Rmt	
4	Providing and fixing M.S. supporting clamps to submersible pump set including all leads and lifts.	1.00	Nos			Each	
5	Providing and fixing of M.S Nipple of upper and lowe side of pump having one side of square thread for G.I. pipe 32mm dia complete in all respects in all leads and lifts.	1.00	No.			Each	
6	Providing and fixing PVC coated rope wire 4mm dia suitable to wear the weight of submersible pump motor pump set and PVC. pipe etc. complete in all respect including entire carriage of material.	48.00	Rmt			Rmt	

RISING MAIN

1	Excavation in foundations and trenches etc.(for pipes and pits in all depths etc.) in all lifts and in all kinds of soils such as pick work, jumper work, blasting in soft/hard rock, chiseling/wedging out of rock (where blasting is prohibited)and saturated soils, stacking the excavated earth within all leads and lifts, clear from the edge of excavation and then returning the stacked soil in 15 cm layers when required into plinths, sides of foundation and trenches etc., consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth as directed by Engineer-in-charge within all leads and lifts including uprooting of trees, dressing of beds and sides and preparation of sub-grade, restoration of unmetalled /metalled/paved surfaces to its original conditions including soring, strutting, timbering and dewatering , where ever required, providing diversion for traffic, fixing night signals, fixing caution boards, crossing over trenches for access to houses complete and to the entire satisfaction of the Engineer-in-charge.	54.60	cum	Per cum
2	Laying,jointing and testing of galvanized mild steel tube in trenches of following dia medium/light class including tube fittings and to the entire satisfaction of the Engineer-in-charge as per IS:1239 (Part-I)-1979 fully jointed with M.S.flanged of different table as per IS 6392-1971 / circumferencial butt welding including welding in two layers on both faces as per IS:816-1965,gasket sheet not less than 3mm in thickness,nuts and bolts etc.and cutting of threaded complete in all respect. (Cost of excavation, in trenches,M.S flanges, butt wellding and gasket sheet etc. to be measured and paid for separately)			
	65 mm dia medium Class	160	Rmt	Rmt
3	Providing & welding of M.S. flanges joint as per IS:6392-1971 of following dia and table with Heavy / Medium grade GMS pipe of following dia . The welding of flanges with pipe should conform to IS:816-1965 with electrode as per IS:814-1967 including required Nos. of nuts and bolts as per IS:1369-1967 and 3mm thick asbestos fibre jointing gasket sheet conforming toIS: 2712-1965. The welding of flanges should be done in two layers on both faces to make the joint air tight and to the entire satisfaction of the Engineer-in-charge including cutting of threaded ends of the pipes.			
	Dia of Pipe Table Welding code No Gasket code No.			
	65 mm dia GMS Medium) 5 816-1962 2712-1965	9	Pair	Per Pair
	(every joint at RD 0/0 to 48 mtrs in bore well & 1% joint at RD 48 to 160 mtrs)			
4	Providing circumferencial butt welding joints following dia GMS pipe (heavy class) as specified above welded with 2 layers of welding (according to wall thickness of pipes) by using 3mm to 4mm special electrodes of Advani orlion (Adore)/ ESAB make with Generator and which and crab/ loder at site (The cost of providing and laying of GMs Pipes to be measured and paid for seperately) The work shall be done as per entire satisfaction of Engineer-in-Charge with in all leads and lifts.	18	Joint	Per joint
5	Providing and fixing double flanged cast iron sluice valve of 65 dia **Leader/Kirloskar** (with hand hand wheel as per IS- 14846-2000 P.N.1 complete with nuts and bolts class including brass spindle) gasket sheet not less than 4mm thick complete in all respects in all leads and lifts (The tail pieces if required shall be measured and paid for seperately). **Flange table5**	1	No	Each

6	Providing double flanged cast iron Non return valve (Swing check type) of **Leader/Kirloskar/** make and of 65 mm dia having bye pass arrangement rising main and capable of with standing normal seat pressure as per IS: 5312-1984 (P-I) with upto date ammendments including carriage complete in all respects.	1	No	Each
7	Providing and fixing screwed cast iron air release valve 25 mm dia single ball type of **Leader/ Bir / Kirloskar make** as per BS 1452-90 with upto date ammendments as per clas PN 10.00 to with stand a seat pressure of 11.22 kg /Cm2 complete in all leads and lifts & to the entire satisfaction of the Engineer-in-Charge .	2	No	Each
8	Providing and fixing successfully testting of microprocessor based Fully automation system panel for 5 HP submersible pump for automatic operatio, control & protection of pump. The panel should be offered with programmable logic controller(PLC) Humen machine Interface, etc. fully programmable i.e. digital display connection with motor etc and all connection needed to make motor and pump run successfully. The system should be offered with cabinet, including panel board with all accessoires of reputed make with Ammeter, volt meter, push biutton, SMPS, control tranformers, Indicators , contact ports, single phase preventor, relay, selector switch etc. complete job in all respects all digital display connections must be suitable to run the motor and pump successfully all the equipments should be compaliable/ upgradable for use with future automation of system.	1	set	Per set
				Total

Terms & Conditions of Pumping machinery

1. The firm shall forward a copy of supply order/indent placed by it for the supply of pumps and motors on the manufacturers/authorized dealers of the pumps and
2. The firm shall arrange dispatch of offered pumps and motors to the consignee direct from the manufacturers/ their authorised dealer of the pumping machinery for
3. The shop test for the pumps and motors shall be carried out at manufacturers works in the presence of representative of the department as per IS: 325-1978.
4. The firm shall supply the recommended list of spares and quantities required for normal working of pumping machinery (2 years) from the manufacturers of the
5. The firm shall supply the manufacturers manuals for the operation and maintenance of the pumping equipment.
6. The firm shall arrange operation and maintenance training to the operating staff for the pumping machinery without extra cost for a period of 7 days i.e. during
7. The **characteristic curves** of the pumping equipment shall be supplied with the offer other wise the tender shall be rejected.
8. The firm shall supply layout drawing in respect of various components, such as suction pipes, valves, cable, trenches, control panel etc. from the foot valve
9. The installation of pumping machinery above 40 HP shall be inspected by the technical representative of the manufacturers of rank not less than that of a
10. All the civil work shall be constructed by the contractor
11. The wiring and installation of electric equipment shall be as per HPSEB rules and regulations & subjected to the approval of the Chief Electrical Inspector and or
12. The temporary electrical connection, if required during installation shall be arranged by the firm at its own cost and energy charges shall also be paid directly by
13. Prices of all the items shall be FOR site of work inclusive of all leads and lifts and shall be inclusive of all charges of transportation, insurance, packing, taxes and
14. The rates shall be quoted only on the format of schedule of quantities which is attached with the tender document giving all specified data so desired there in.
15. The rates offered for the specified makes in the schedule of quantities only shall be considered. Rates quoted for part and or non-specified makes shall lead to
16. The site of work is located at __Km on road _____ km from nearest raod _____ & head load is involved. The site is located _____ km
17. All the equipment material shall conform to the relevant BIS specifications wherever applicable and in its absence to any accepted / National/International standards.
18. The general specifications of work shall conform to HPIPH specifications as per direction of the Engineer-in-charge.
19. The validity of the tender shall be not less than 120 days other-wise the tender shall be summarily rejected.
20. All the equipments shall be guaranteed against any manufacturing defect including metallurgy and its performance for a period of 12 (twelve) months from the
21. The installed pumping machinery and other allied accessories shall be tested daily for stipulated pumping hours in the NIT for a period of seven days without
22. During the guarantee period efficiency of the pumping and the electric equipment should not vary beyond the range of (+/-) 2.5% If during guarantee period,
23. 60%(Sixty percent) payment of the cost of pumping machinery and equipment less 10% security and other statutory recovery shall be made after receipt of complete

24 **The Rates are inclusive of all taxex including GST**

25 Only such contractor can participate in the tender who was the authorised deler of the manufacturer of Pumping Machinery

RISING MAIN

1 The work shall be carried out as per IPH specification and to the entire satisfaction of the Engineer-In-charge.

2 Security, income tax and GST shall be deducted on usual rates.

3 Final payment shall be released after successful testing of pipe line.

4 The contractor is fully responsible for watch & ward of his material at site of work during exection . Nothing shall be paid for rejected work .

5 The GMS pipe will be issued to the contractor free of cost from Divisional store .

6 The bend shall be provided to required degree and dia duly manufactured by the parent tuebe only conforming to ISI mark.

7 No payment shall be made to the contractor in case the bend being made by way of bending the pipe.

8 Any damage caused to metalled/ mecadam road street, path and existing structure during excution of work will be restored by the controctor /firm at its own

9 All machinery/ equipment required for laying of pipe line will be arranged by the contractor/ firm.

10 Pipe laying shall be done asper ISI standard and asper water supply mannual & no deviation is allowed without prior approval of the undersigned.

11 The testing of pipe line will be carried out by the firm at its own cost for which 5% amount will be withheld and same should be relesed after successful

12 All the joints shall be leak proof, air tight and smoke proof.