

DNIT/SCHEDULE OF QUANTITY

NAME OF WORK:-Providing LWSS.to left-out NC/PC habitations of census Villages Bassa Hadialan,Thalli,Kandi,Kulahn etc. in Tehsil Nurpur Distt.Kangra(H.P.)(SUB-HEAD:-Providing and installation of Submersible Pumping Machinery with allied accessories **Stage-1st.**)

Estimated cost:- 101250.00
Earnest Money:- 2025.00
Time:-3 Months

S.	Description of items of work.	Qty.	Rates	Unit	Amount
1	2	3	4	5	6
1	Supply of Submersible Pumping Set of Calama/SU/Johnston/KSB/BS conforming to BIS-8034-1979(Latest) suitable for clear water fitted with bronze Impellers or suitable alloys directly cooupled to squirrell cage Electric Induction Motor of same make as that of Pump conforming to BIS:9287-1979(Latest with uptosate ammendments) and totally water proof for Submersible duty,isolated from the pump by intermediate casing with double Mechanical seal in oil chamber,grease grease packed lubricated bearings and provided with stainless steel thrust bearing plate to withstand 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 including water level guard,erection clamps,cable clips and depth gauge etc. The Pump shall be suitable for operation on data given below:-	2 Sets		Per Set	101250.00
	i) Location of site :-The site is located at a distance of 5 Kms.from Nurpur Road Railway Station 0.30 Km.by head load.				
	ii) The altitude of place in which the Motor is intended to work :-Altitude of place is 444 Metres above Mean Sea Level.				
	iii) Type of current :-A.C.Three phase supply with frequency 50 cycles per second.				
	iv) Rated Voltage :-415 Vvolts (+/-) 10%				
	v) Characterstics of water :-(a).Temperature = 20oC (f) PH =____ (b).Turbidity =Upto 10NTU (g) Total solids____Mg/Litre ©. Hardness =__Mg/Litre(as CaCo3) (h). Others____ (d).Alkalinity =__Mg/Litre(as CaCo3)				
	vi) Depth of Well Assembly :-143.20 Metres.				
	vii) L.W.L.in Tube-Well :-45.00 Metres				
	viii) Maximum draw down :-3.00 Metres				
	ix) Centre line level of Pump :-16.00 Metres				
	x) Discharge level of highest point:-102.86 Metres				
	xi) Nos.of Pumps required :-2 Nos.(One will act as stand bye)				
	xii) Capacity :-6.54 L.P.S.				
	xiii) Total head in Metres :-73.84 Metres				
	xiv) Length of Rising Main :-800.00 Metres				
	xv) Dia of Rising Main :-100mm.dia (Medium Class)G.I.Pipe.				
	xvi) No.of working hours per day :-8.00 Hours.				
	xvii) Limits of pump operation :- (-) 25% (+) 10% of total head.				
	xviii) H.P.of Motor/Drive unit :-Required 8 H.P.of Pump at (+) 10% and (-) 25% of total head. BHP.with following margins/multiplying factor at duty point,whichever is higher. a).Upto 2 H.P. =1.5 (d) 10 to 20 H.P. =1.2 b).2 to 5 H.P. =1.4 (e) 20 to 100 H.P. =1.15 c) 5 to 10 H.P. =1.3 (f) Above 100 H.P. =1.10				
	xix) Test Run :-16 Hours continueously for 7 days.				
2	Supply of suitable Air Break type Star delta starter of standard make such as;MEI/Kilburn/Jyoti/Siemens conforming to BIS-8544-1979 latest with uptodate ammendments for squirrel cage/Slipring motor mounted on Pannel Board with Magnetic type over load release and dashpot,time lag,under voltage release with initial oil fillings.	1 No.		Each	
3	Providing M.S.Sheet 16-SWG steel fabricated floor mounted closed Almirah type sewitch board including angle iron post of suitable height and size ISA 65x65x6mm.duly painted comprising and capable of mounting the following accessories with all internal electric connections. Note:-The drawing of panel board shall be subject to approval of Engineer-in-Charge.	1 No.		Each	
a)	Ammeter for A.C.supply,100mm.circular dial L&T Rishav/Auto Electric/AE/IMP/Havells make of suitable range for above Pumping Set with selector switches conforming to BIS-1248-1983(Latest edition).	1 No.		Each	
b)	Voltmeter for A.C.supply. 100mm.circular dial L&T/Auto electric/AE/Havells make of suitable for above Pumping set with selector switches conforming to BIS-8044-1978(Latest edition).	1 No.		Each	

1	2	3	4	5	6
c)	ICTP.Switchhes with HRC fuses Kilburn/L&T/Standard/Siemens/Havell's make and having capacity 30% extra operational rating of Motor as per BIS-4064-1978 with uptodate ammendments immediately after the power of the Meter of the HPSEB.	1 No.		Each	
d)	Busbar chamber of approved make having 3 copper bars of suitable rating for full length equal to width of Board of 3-live phases and one copper bar of half rating of full length for neutral conforming to BIS-8084-1976 and 11353-1985 read with 5578-1985 all latest with uptodate ammendments.	1 No.		Each	
e)	MCB/MCCB/OCB of suitable capacity of Kilburn/L&T/MEI/Standard/GEC/Havell's make on incoming feeder for Pumping set conforming to BIS-2516-1985(Latest edition) with neutral linked under voltage release.	1 No.		Each	
f)	Three Phase indicating lamps complete with toggle Switches for individual motors conforming to BIS-3452 Part-I&II latest with uptodate ammendments.	1 No.		Each	
g)	Hour Run Meter of reputed/approved make of four digit capacity conforming to BIS-722(Latest edition).	1 No.		Each	
4.a.	Providing C.I.double flanged sluice valve conforming to BIS-780-1984of Kirloskar/Kilburn make Class PN-1.0 having one size higher to deliverysize of Pump and capable of withstanding nominal seat pressure of 10.20Kgs./Cm ² (Size of Valve to be specified by the tenderer).	1 No.		Each	
b)	Supply of Kirloskar/Leader/Kilburn make Cast iron double flanged swing Check Type Reflux Valve conforming to IS-5312-1984 having bye pass arrangementand one size higher to delivery size of pump(Class-PN 1.0 and shall be suitable for withstanding nominal seat pressure of 10 Kgs.cm ²)(Size of Vale to be specified by the tenderer).	1 No.		Each	
c)	Supply of Kirloskar/Leader/Kilburn make C.I./Cast Steel double flanged Swing Check Type Reflux Valve conforming to IS:5312-1984 having bye pass arrangement and of size equal to dia of Rising Main i.e. 100mm.and Class PN-1.0 shall be suitable for with standing nominal seatpressure of 10.20Kgs./Cm ² .	1 No.		Each	
5(a).	Providing and laying suitable size copper PVC.insulated armoured power 3.5 core cable ___mm ² conforming to BIS-1554-Part-I-1988or latest with uptodate ammendments Finolex/Havell's/Gloster make from Meter of HPSEB.to MCB/OCB & from OCB to BusbarSwitch & Starter(One cable carrying all three phases) including all other electric equipments/accessories such as;thimbles, flexible pipe,solder,nuts & bolts,cable glands etc.laid in pipes or trenches size and made will be subject to approval of HPSEB. authorities. In case of non-acceptance by HPSEB.authority shall have to be replaced by the tenderer free of cost. (The size of cable to be specified by the tenderer).	10.00 Metres		Per Metre	
(b)	Providing and laying PVC.jointless flat water proof cable ___mm ² of Finolex make as per BIS-694-1990(Latest with uptodate ammendments) suitable for the pump set offered from OCB to Motor, Motor to Starter including all other electric equipment such as;thimbles,flexible pipe,solder,nuts & bolts,cable glands etc.laid in pipes or trenches under floor. The type & make will be subject to approval of HPSEB.authorities. In case of non-acceptance by HPSEB.authority,it shall have to be replaced by the tenderer free of cost.(The Size of cable to be specified by the tenderer).	100.00 Metres		Per Metre	
c)	Providing and laying doub le loop earthing with copper plate 600x600x3mm.thick electrode complete with material such as;char coal,common salt,G.I.Pipes,thimbles,nuts & bolts,digging of pits,G.I.wiring and 20x3mm.copper strips of required capacity conforming to BIS-3043-1987 latest with uptodate ammendments for above motors and other electrical equipments.	Job.		L.S.	
d)	Supply and erection of floor/wall mounted power factor shunt capacitor conforming to BIS-2834-1986 latest with uptodate ammendments BHEL/GEC/Machneil/Mager/Bajaj make to raise the prevailing power factor at site to 0.95 for direct connection to Induction Motor individually of required KVAR according to H.P.of Motor offered including Siemens/Gloster/ICC make from Busbar chamber to capacitor and also including LT/LK/Kilburn make ICTP.Switchesconforming to BIS-4064-1978 or latest with HRC fuses(Range to be specified by the tenderer).	2x4 = 8 KVAR		Per KVAR	
6	Supply of standard make circular dial pressure gauge of suitable range of Fiebeg/Bourden/Precision make with all accessories such as;stop cock,copper tubing etc.conforming to BIS-3624-1987 latest with uptodate ammendments.	1 No.		Each	

1	2	3	4	5	6
7	Providing and lowering of Column Assembly,common header ____mm.dia G.I.Pipe 4mm.thick conforming to BIS-1978-82 considering site requirement duly flanged at every 3 Metre length with flanges conforming to to BIS-6392-1971(Table-5) including tapers,flanges,rubber gaskets 3mm.thick as per BIS-2712-1978,nuts & bolts as per 1364-1983 and specials upto collection tank as per directions of Engineer-in-Charge/as per layout approved by the Engineer-in-Charge. The pipes shall be capable of withstanding 1.5 times the total pressure indicated in item No.1(xii)(Size of Column pipe is to be specified by the tenderer). NOTE:- Actual laying to be done as per final drawings to be approved by the Engineer-in-Charge. (The dia of column assembly pipe to be specified by the tenderer). (a). Column Assembly ____mm.dia	45.00 Metres		Per Metre	
8	Erection of all equipments from S.No. 1 to 4 and 6 including cost of tees, bends,tapers and any other fittings required as per conditions and as per directions of the Engineer-in-Charge.	Job		L.S.	

TERMS AND CONDITIONS:

- 1 Pumping Machinery and all other equipments or allied accessories shall be guaranteed for 12 Months from the date of commissionings.
- 2 All the equipments or accessories to be supplied shall be of suitable capacity/rating and shall be only of the make as specified in NIT. Nothing extra shall be paid for any change in capacity/rating of the equipments offered if the same doesn't fulfil the requirement as per NIT.
- 3 The respective class & size of Reflux Valve/Sluice Valve(for delivery/Suction side) shall be mentioned clearly and shall carry a guarantee of minimum two years. The make of Valve shall be either engraved or cast inside the body of the Valve.

/Nett Jan.2012

Executive Engineer,
IPH.Division,Nurpur.