

## Schedule of quantity

Estimated cost Rs.360000/-

Earnest money Rs. 7200/-

Time:- Six months

**Name of work:- Providing LWSS to P.C. habitation of C.V. Lot, Karswali & Kathyali in G.P.Pakhrair and kanda Bagsaid Tehsil Thuag Distt. Mandi (HP)(SH:- Supply and erection of pumping machinery with allied accessories).**

Sr.No	Items of work	Quantity	Rate	Units	Amount.
1	Supply of horizontal spindle, horizontal/vertical split casing single/Multistage centrifugal pumps of standard make such as KSB/Mather and Platt/Kirloskar/ Best Crompton/BE/Beacon Weir conforming to BIS 1520 (latest with upto date ammendments) read with BIS 9137-1978 or latest to handle clear water having turbidity <50 ppm. with impelleres, casing ring and shaft sleeves of bronze, shaft of steel with cast iron casing of suitable capacity coupled directly through a flexible coupling on a common base plate to Kirloskar/NGEF /Crompton /Siemen/Jyoti/ ABB/Marathons squirrel cage screen protected drip proof induction electric motor. It should include cost of bearings, nuts and bolts, painting etc. The pumping machinery shall be installed and anchored properly including casting of foundation. The item rates should include providing and fixing of all electro, mechanical and piping accessories as detailed in technical specification. The contractor/firm will provide complete detail of make and model of pumping machinery alongwith rating of pumping machinery including characteristic curve of machinery offered, make/rating and size of all electric- mechnaical and piping system. The rates shall be for complete job to run the machinery in proper working and should meet with the following requirements:-	2 sets		Per set	

NOTE: - RECIPROCATING PUMPS SHALL BE OF WASP/ASPEE MAKE

**A) SITE CONDITIONS**

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| (I) Location of site                | Near village Lot                    |
| (ii) The altidue of place which the | 2500 mtrs.                          |
| (iii) Humidity                      | Whether generally remains humid     |
| (iv)Nature atmosaphere              | As normally encountered in Shivalik |
| (v)Detail of quality of water       | Clear cold water                    |
| (vi)Water free from sand or         |                                     |
| (vii) water corosive or not         |                                     |
| (viii) Turbidity (if any)           | Upto 50 PPM                         |
| (ix) NPSH available                 | Positive suction                    |
| x) Any other information or         |                                     |

**(B) OPERATING CONDITIONS**

- |                              |                                       |
|------------------------------|---------------------------------------|
| (I) Type of current          | AC three/single phase                 |
| (ii) Operating frequency     | 50 HZ                                 |
| (iii) Rated voltage          | 400(+)- 10% volts.                    |
| (iv) System of earthing if   | Double loop earthing as per BIS 3043- |
| (v) No. of working hours per | 4 Hours                               |

	(vi) Speed of revolution in	To be quoted by tenderer
	(vii) Direction of rotation	To be quoted by tenderer
	(viii) The max. temp of	25 Degree Centigrade
<b>C</b>	<b>MOTOR</b>	
	(I) Ref to BIS code	BIS 325-1978 read with BIS 900-
	(ii) Type of enclosure of	SPDP(As per BIS 4691-1985 (latest)
	(iii) Type of duty	Continuous
	(iv) Mechanical out put in	Suitable for driving centrifugal/
	(v) Class of insulation	Class- B/Class "F"
	(vi) Max. permissible temp.	-
	(vii) Particulars of test reqd.	As per terms and conditions.
	(viii) Particulars as to	ATS/Star delta starter /Stator Rotor
	(ix) Motor whether squirrel	<b>Note:-</b> Star delta starter upto 37.5
	(x) Details of shaft	Squirrel cage/slipring
	(xi) Type of slip ring gear	Just sufficient to provide direct drive
	(xii) Breakway torque in	Continuously rated for Squirrel
	(xiii) Nature of load & any	Breakway torque to be given by the
	(xiv) Where possible fault	To work the pump offered.
		The motor should be able to
<b>D</b>	<b>PUMP BIS 1520-1980) Read with BIS 9137-1978 both latest with upto</b>	
	(a) Nos. of pumps required	2Nos. pumps one will act as stand
	(b) Spare parts required	For Two years normal maintenance
	( c) Optional fittings reqd.	Air cock for exhausting air from each
<b>E</b>	<b>PUMP OPERATING CONDITIONS</b>	
(I)	Capacity	2.57 LPS Per set
(ii)	Total head in Mts.	583.58 mtrs.
	If total head is not known	
(I)	Static head	549.40 mtrs.
(ii)	Minimum depth of water	Positive suction
(iii)	Variation in water level	
(iv)	Ground level to max.	
(v)	Ground level to delivery	
(vi)	Pressure in the suction	_____ kg/cm2
(vii)	Pressure in the delivery	_____ kg/cm2
(iii)	Length of R/Main	1550 Rmt
iv)	Dia of rising main	65 mm
(v)	Drive arrangement	Direct through flexible coupling on a
(vi)	Drive type	Electric driven
(vii)	NPSH reqd.	To be quoted by tenderer
(viii)	Limits of total head in which	(-)15% to (+) 10% of total head.
(ix)	Suction/delivery size of	To be specified by the teneederer.
(x)	Efficiency of pump at	To be specified by the teneederer.

	(a) Duty head			
	(b) (+) 10% head			
	(c) (-) 15% head			
(xi)	Material of construction	To be specified by the tenderer. (Manufacturers certificate to be		
2	Supply of suitable oil immersed star delta starter/ATS/Staror rotor starter of		2 Nos.	Each
	<b>Note:-</b> Star delta starter upto 37.5 KW, ATS between 37.5 KW to 50 KW and			
3	Providing MS sheet 16 SWG steel fabricated floor mounted closed almirah		1 No.	Each
	(a) Ammeter AC supply 100mm circular dial Auto electric/AE/IMP/Havells		2 Nos.	Each
	(b) Voltmeter AC supply 100mm circular dial Auto electric/AE/IMP/Havells		1 No.	Each
	(c) ICTP switches with HRC fuses Kilburn/Larsen & Turbo/Standard/Siemens		2 sets	per set
	(d) Busbar chamber having 3 copper bars of suitable rating for full length		1 No.	Each
	(e) MCB/Oil circuit breaker of suitable capacity of		1 No.	Each
	(f) 3 phase indicating lamps complete with toggle switches for individual		2 sets	per set
	(g) Earth leakage circuit breaker of recommended (Kilburn/L&T/MET/GEC		1 No.	Each
	(h) Hour run meter of reputed make of four digit capacity conforming to BIS-		2 Nos.	Each
	(i) Suitable three phase voltage monitor relay with all protections & usual		1 No.	Each
	(j) Change over switch of reputed make and suitable capacity		1 No.	Each
	(k) Single phase preventor of reputed make & suitable capacity		1 No.	Each
4(a)	Supply of Kirloskar/Kilburn/IVC/Fouress/Gled/BHEL/Leader/KSB/Pelican of		2 Nos.	Each
	<b>Note:-</b> The sluice valve shall conform to BIS 780-1984 latest with upto date			
(b)	Supply of Kirloskar/Kilburn/IVC/Fourcess/Gled/BHEL/Leader/KSB/Pelican of		2 Nos.	Each
	<b>Note:-</b> The sluice valve shall conform to BIS 5312-1984 latest with upto date			
(c)	Supply of Kirloskar/Kilburn/IVC/Fourcess/Gled/BHEEL/Leader/KSB/Pelican		1 No.	Each
	<b>Note:-</b> The sluice valve shall conform to BIS 5312-1984 latest with upto date			
(d)	Supply of Kirloskar/Kilburn/IVC/Fouress/Gled/BHEL/Leader/Kartar of reputed		2 Nos.	Each
	<b>Note:-</b> The sluice valve shall conform to BIS 780-1984 latest with upto date			
5(a)	P/L suitable size copper PVC insulated armoured power 3.5 core cable		1 Job	LS
(b)	Providing and laying jointless flat water proof cable as per BIS 694-		1 Job.	L.S
(c)	P/L double loop earthing with GI plate 600x600x3mm thick electrode		1 Job.	L.S
(d)	Supply & erection of floor/wall mounted power factor shunt capacitor		2 Nos.	Each
6	Supply of standard make 100mm dia circular dial pressure gauge of suitable		2 Nos.	Each
7	P/L Suction, delivery pipe considering site requirements, NPSH required		1 Job.	L.S
	<b>Note:-</b> Actual laying to be done as per final drawings to be approved by the			
8	Errrection of all equipments from Sr. No.1 to 4 & 6 including cost of tees,		1 Job	L.S.
	<b>Note:-Terms and condition attached separately.</b>			
				<b>Total</b>

Executive Engineer  
I&PH Division  
Thunag