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| Job No. 1 | | | | | |
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*** SCHEDULE OF QUANTITY ***

Name of Work :- R/M of 8 Nos Tubewell in Doon area in Tehsil Baddi Distt. Solan (HP). (SH:- Extension of RCC pipe 200 mm dia in distribution system and C/O 3 nos out lets in Tubewell Manpura Kharuni)

Estimated Cost Rs:- 147985 /-only

Earnest Monet Rs:- 2960 /-only

Time Limit :- 1(one) Month.

| S.No | Description of item. | Quantity. | Rate | Unit | Amount. |
|------|--|--------------|------|------------|---------|
| 1 | Excavation in drain and channels etc. in earth work for pipes upto all depths in all classification of earthwork such as pick work, jumper work, saturated soil including bailing or pumping out water, blasting soft/hard rock or chiseling soft/hard rock where blasting is prohibited in all lifts including jungle clearance wherever required, trimming & dressing of sides, levelling of beds to correct grade including shoring/struting, planking , timbering & dewatering wherever required stacking the useable/unuseable material/soil seperately & after laying, jointing & testing of pipes, returning the useable soil in trenches in 15cm layers including consolidating of such deposited layer by ramming & watering & then disposing of all surplus excavated soil/ unuseable material as directed with in all leads & lifts including restoration of un-metalled surfaces to its original condition & including cost of diversion for traffic, right signals, fixing caution boards, crossing over trenches for acces to houses, fencing etc. complete in all respect with in all leads and lifts and as per direction of the Engineer-in-charge at site of work. | 162.75 Cum | | Per Cum. | |
| 2 | Providing,Laying,Jointing,testing & commissioning(two level or slope) and jointing of Precast concrete socketted and spigotted pipes of following classe with reinforcement duly ISI marked as per IS:458-2003. Precast concrete pipes with and without reinforcement 3rd revision Amendment No.3 & with latest amendments, if any, complete with rubber rings type-II duly ISI marked as per IS: 5382-1985 1st.Revision amendment No.1 & with latest amendments, if any, and joints in cement mortar 1:2(1 Cement :2 Sand) including testing of joints and complete in all respect including entire carriage of materials within all leads and lifts and as per direction of Engineer-in-Charge . | | | | |
| | 200 mm dia NP-2 | 175 Mtr | | Per Rmtrs. | |
| 3 | Providing and fixing C.I. alfa valve of the following diameter complete in all respect in all leads and lifts as per the'direction of Engineer -in-Charge i) 200mm dia. | 3 Nos. | | Each. | |
| 4 | Excavation in foundations,trenches etc.in all kinds of soil such as pick work,jumper work,blasting work,kankar moorum,singles including decomposed soft and hard rock,including chiselling wedging clearance of bushes etc including shoring,dewatering etc in all leads and lifts stacking the excavated soil not more than 3 mtrs clear from the edge of excavation and then returning the stacked soil in 15cm layers when required in to plinths, sides of foundations etc.consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated earth as directed by the Engineer-in-Charge complete in all respect. | 10.01 Cum | | P/Cum | |
| 5 | Providing and laying cement concrete 1:4:8(lcement:4sand:8 graded stone aggregate 40mm nominal size)and curing complete excluding the cost of form work in foundation and plinth including carriage of material in all leads & lifts. | 1.38 Cum | | Per Cum. | |
| 6 | 2nd class brick work using common burnt clay building bricks in foundation and Plinth in cement mortor 1:4 (1 cement:4 sand) in all leads and lifts as per the direction of the Engineer-in-Charge. | 6.51 Cum | | Per Cum. | |
| 7 | 40mm thick cement concrete flooring 1:2:4(1 cement:2sand:4graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement including carriage of materials with in all leads and lifts. | 4.05 Sqmtr. | | Per Sqmtr. | |
| 8 | 15 mm cement plaster in single coat on rough side of brick masonry for interior plastering upto floor two level including arrises, internal rounded angle, chamfers and or rounded angles not exceeding 80 mm in girth and finished even and smooth with cement mortor 1:4 (1 cement : 4 sand) in all leads and lifts as per the direction of the Enginner-in-Charge. | 26.21 Sqmtr. | | Per Sqmtr. | |
| | | | | Total :- | _____ |

TERMS AND CONDITIONS:-

- 1 The work will be carried out according to the IPH specifications.
- 2 The work should be done to the entire satisfaction of the Engineer-in- Charge.
- 3 Security, Income Tax, labour cess and GST as admissible will be deducted from the bill of the contractor.
- 4 Nothing will be paid for rejected work.
- 5 The cement will be issued to the contractor @ Rs 255/- per bag & tor steel issued Rs. 3890 /- per qtl. from IPH store Nalagarh.
- 6 Final payment(minimum 10%) will be released after testing of R/mains/Distribution pipe lines .
- 7 The contractor is fully responsible for watch and ward of the materials at site of work & nothing shall be paid extra for this purpose.

**Executive Engineer,
IPH Division Nalagarh.**

Job No. 2***SCHEDULE OF QUANTITY ***

Name of Work:-C/O 7 Nos Tube well in Doon area in Tehsil Baddi Distt. Solan (HP) (SH:- Laying,jointing,testing and commissioning of HDPE pipe 160mm dia PN-2.50 Kgf/cm2,PN-80 in distribution system and C/O 4 Nos out lets etc.at Tube well Manpura Khuian)

Estimated cost Rs :- 170782 /-only
 Earnest money Rs:- 3416 /-only
 Time Limit :- 3 month

| S.No | Description of item. | Quantity. | Rate | Unit | Amount. |
|----------------|--|--------------|------|------------|---------|
| 1 | Excavation in drain and channels etc. earth work for pipes upto all depths in all classification of earthwork such as pick work, jumper work, saturated soil including bailing or pumping out water, blasting soft/hard rock or chiseling soft/hard rock where blasting is prohibited in all lifts including jungle clearance wherever required, trimming & dressing of sides, levelling of beds to correct grade including shoring/struting, planking , timbering & dewatering wherever required stacking the useable/unuseable material/soil seperately & after laying, jointing & testing of pipes, returning the useable soil in trenches in 15cm layers including consolidating of such deposited layer by ramming & watering & then disposing of all surplus excavated soil/ unuseable material as directed with in all leads & lifts including restoration of un-metalled surfaces to its original condition & including cost of diversion for traffic, right signals, fixing caution boards, crossing over trenches for access to houses, fencing etc. complete in all respect with in all leads and lifts and as per direction of the Engineer-in-charge at site of work. | 425.25 Cum | | Per Cum | |
| 2 | Laying, jointing testing and commissioning of HDPE (High Density Polyethylene pipes) of following diameter and class confirming to IS 4984-1995 with fusion welding process including all necessary fitting in all leads and lifts to the entire satisfaction of Engineer-in-charge. (Earth work in trenches to be measured and paid separately) | | | | |
| 2.01 | 160mm dia HDPE Pipe, PN,2.5 PE 80, IS: 4984 | 525.00 Rmt | | Per Rmt | |
| 3 | Excavation in foundation trenches upto all depths in all classification of earth work such as pick work,jumper work, saturated soil including bailing of pumping out water,blasting soft/hard rock where blasting is prohibited.In all lifts including trimming and dressing of sides,levelling of beds to correct grade i/c shoring,strutting,planking timbering and dewatering wherever required,stacking the usable and un-useable material / soil separately and after laying, jointing of pipes returning the useable soil in trenches in trenches in 15 cm (fifteen centimeters) layers including consolidating of each of each deposited layer by ramming and watering and disposing of all surplus excavated soil un useable materials as directed within all leads & lifts including restoration of un-metalled surfaces to its original condition and including cost of diversion for traffic night signals, fixing caution boards, crossing over trenches for excess to houses, fencing etc.complete in all respect with in all leads & lifts as per the direction of the Engineer-in-charge. | 6.39 Cum | | Per Cum | |
| 4 | Providing and laying cement concrete 1:4:8(1cement:4sand:8 graded stone aggregate 40mm nominal size)and curing complete excluding the cost of form work in foundation and plinth including carriage of material in all leads & lifts. | 1.28 Cum | | Per Cum | |
| 5 | 1st class brick work using common burnt clay building bricks in foundation and Plinth in cement mortar 1:6 (1 cement: 6 sand) in all leads and lifts as per the direction of the Engineer-in-Charge. | 3.74 Cum | | Per Cum. | |
| 6 | 15 mm cement plaster in single coat on rough side of brick masonry for interior plastering upto floor two level including arrises, internal rounded angle, chamfers and or rounded angles not exceeding 80 mm in girth and finished even and smooth with cement mortar 1:4 (1 cement : 4 sand) in all leads and lifts as per the direction of the Enginner-in-Charge. | 34.30 Sqmtr. | | Per Sqmtr. | |
| 7 | 40mm thick cement concrete flooring 1:2:4(1 cement:2sand:4graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement including carriage of materials with in all leads and lifts. | 3.240 Sqm | | Per Sqmtr. | |
| 8 | Providing and Fixing 160mm dia alfa valve complete in all respect as per direction and to the entire satisfaction of the Engineer-in-charge . | 4.00 Nos | | Each | |
| Total:- | | | | | |

TERMS AND CONDITIONS:-

- The work will be executed as per IPH/PWD specification and as per the directions of the Engineer-in-charge.
- Security, GST, income tax, labour cess and other statutory deduction will be deducted from each bill of the contractor as per clause of agreement and as per rules prevalent at the time of payment.
- The rate shall be tendered by the contractor / inclusive of all carriage of material and taxes etc.
- All the arrangements of diversion of traffic if required shall have to be done by the contractor and nothing on this account shall be paid for.
- The cement will be issued to the contractor from IPH store Nalagarh and recovery will be made @ Rs 255/- per bag & tor steel issued Rs. 3890 /- per qtl.from IPH store Nalagarh. The empty bags of cement have to be returned to the Department otherwise the recovery will be made @ Rs 5/- per bag.

- 6 The HDPE pipes will be issued free of cost from IPH Divisional store Nalagarh However, the store issue rates of issued pipes, if necessary the recovery will be made double to the store issue rates in respect of not laid or returned pipes.
- 7 RCC work shall be carried out as per IS 456-2000.
- 8 The contractor is fully responsible for watch and ward of the materials at site of work & nothing shall be paid extra for this purpose.
- 9 Contractor shall be responsible for any leakage in the Distribution system and shall rectify the same at his risk & cost.

Executive Engineer
IPH Division Nalagarh

Job No. 3

*** SCHEDULE OF QUANTITY ***

Name of work :-R/M of various water supply Schemes in IPH Section Manpura under Tube well Sub-Division Baddi in Tehsil Baddi Distt. Solan (HP).(SH:- Laying,jointing and testing of GMS pipe (Light grade) of various dia ,Providing and fixing peet valve various dia, in distribution system.)

Estimated cost Rs :- 190046 /-only
 Earnest money Rs:- 3800 /-only
 Time Limit :- 1 (one) month.

| S.No | Description of item. | Quantity. | Rate | Unit | Amount. |
|------|--|------------|------|----------|------------------|
| 1 | Excavation in drain and channels etc.in earth work for pipes upto all depths in all classification of earthwork such as pick work, jumper work, saturated soil including bailing or pumping out water, blasting soft/hard rock or chiseling soft/hard rock where blasting is prohibited in all lifts including jungle clearance wherever required, trimming & dressing of sides, levelling of beds to correct grade including shoring/struting, planking , timbering & dewatering wherever required stacking the useable/unuseable material/soil seperately & after laying, jointing & testing of pipes, returning the useable soil in trenches in 15cm layers including consolidating of such deposited layer by ramming & watering & then disposing of all surplus excavated soil/ unuseable material as directed with in all leads & lifts including restoration of un-metalled surfaces to its original condition & including cost of diversion for traffic, right signals, fixing caution boards, crossing over trenches for access to houses, fencing etc. complete in all respect with in all leads and lifts and as per direction of the Engineer-in-charge at site of work. | 584.33 Cum | | Per Cum. | |
| 2 | Laying,jointing and testing in trenches galvanised mild steel tube of following dia and grade confirming to BIS 1239 (with latest ammendment upto date) as per classification of pipe as specified below. The laying of pipe shall confirm to BIS 5822 (With latest ammendment upto date), all kind of specials such as bends of all degrees to made from parent tube, short pieces, tail pieces all made from parent tube within all leads & lifts. (earth work in trenches to be measured and paid for separately). | | | | |
| i) | 15mm dia(Light Grade) | 150 Rmt. | | Per Rmt. | |
| ii) | 20mm dia(Light Grade) | 335 Rmt. | | Per Rmt. | |
| iii) | 25mm dia(Light Grade) | 165 Rmt. | | Per Rmt. | |
| iv) | 40mm dia(Light Grade) | 950 Rmt. | | Per Rmt. | |
| v) | 50mm dia(Light Grade) | 255 Rmt. | | Per Rmt. | |
| 3 | Providing and fixing peet valve of following internal dia complete in all respect. | | | | |
| i) | 15mm dia | 2 No. | | Each. | |
| ii) | 20mm dia | 3 No. | | Each. | |
| iii) | 25mm dia | 1 No. | | Each. | |
| iv) | 40mm dia | 2 No. | | Each. | |
| v) | 50mm dia | 2 No. | | Each. | |
| | | | | | <u>Total=Rs.</u> |

TERMS AND CONDITIONS:-

- The work will be carried out according to the IPH specifications.
- The work should be done to the entire satisfaction of the Engineer-in- Charge.
- Security, Income Tax, labour cess and GST as admissible will be deducted from the bill of the contractor.
- Nothing will be paid for rejected work.
- GMS pipes will be issued free of cost from Divisional store Nalagarh.However, the store issue rates of issued pipes are as under and if
- The contractor is fully responsible for watch and ward of the materials at site of work & nothing shall be paid extra for this purpose.

**Executive Engineer,
 IPH Division Nalagarh.**

Job No. 4

SCHEDULE OF QUANTITY

Name of Work:- R/R of LWSS Nalagarh in Tehsil Nalagarh , Distt. Solan HP. (SH:-Protection of new drilled T/Well at Chikni Khad RB Nangal) (SH :- Protection of new drilled T/Well of LWSS Nalagarh Phase- Ist) Estimated amount :- R **344656.00** /-only
Earnest Money :- Rs. 6893.00 /-only
Time : - Two Months

SCHEDULE OF WORKS

| Sr No. | Description of work | No.or Qty. | Unit | RATE In Figures To be entered by the | | AMOUNT | |
|-------------------------|--|------------|------|--------------------------------------|-------|--------|---|
| | | | | Figures | Words | Rs. | P |
| 1.00 | Excavation in foundation trenches etc. in all kinds of soil such as pick work,jumper work blasting work in soft or hard rook or by cum chiselling soft/ hard rock where blasting is prchibited in all leads and lif-ts including trimming and dewatering where ever required dressing of sides and bed stacking the excavated soil clear from the edge of excavaton and then returning the excavated soil after completion of work in 15cm layers when required into plinths, side of foundation etc. Consolidating each deposited layers by remming and watering and then disposing of all surplus excavated earth as direction within a lead of 20 mtrs. pick jumper work 50% each as per direction and to the entire satisfaction of Engineer-in-Charge upto all lead and lifts | 79.20 | Cum | Per Cum | | #NAME? | |
| 2.00 | Providing and laying cement concrete 1:6:12 (1 cement :6 sand :12 graded stone agg. 40mm nominal size) and curing complete excluding cost of form work in foundation and plinth in all lead and lifts as per direction and to the entire satisfaction of the Engineer-in-Charge. | 8.44 | Cum | Per Cum | | #NAME? | |
| 3.00 | Providing form work with steel plates 3.15mm thick welded with angle iron in frame 30x30x5mm so as to give a fair finish including centring, shuttering strutting and propping etc. with wooden batten and ballies, in all heights of propping and centring below supporting floor to ceiling upto all height and removal of the same for insitu-reinforced concrete and plain concrete work in :- | | | | | | |
| 3.10 | Vertical surfaces such as wall (any thickness) partitions and the like including attached pillasters, buttresses plinth and string courses and the like in all leads and lifts as per direction and to the entire satisfaction of Engineer-in-charge. | 339.96 | Sqm. | Per Sqm | | #NAME? | |
| 4.00 | Prov.and lying cement concrete 1:5:10 (1Cement: 5Sand: 10 Graded stone agg.40mm nominal size) with 15% plum & curing complete excluding cost of form work in retaining Walls/ Breast Walls , the size of plums shall usually be 150mm to 300mm as per HPPWD specification. | 87.82 | Cum | Per Cum | | #NAME? | |
| 5.00 | Providing and laying cement concrete work 1:2:4(1 cement :2 sand :4 graded stone agg. 20mm nominal size) and curing complete excluding cost of form work and reinforcement for reinforced concrete work in:-Foundations, footings bases of columns and the like and mass concrete. | 13.21 | Cum | Per Cum | | #NAME? | |
| 6.00 | Brick work using common burnt clay 2nd class building bricks in foundation and plinth in cement mortar 1:6 (1 cement :6 sand) i/c curing complete. | 12.23 | Cum | Per Cum | | #NAME? | |
| 7.00 | Placing of Tor steel reinforcement for RCC work including bending binding and placing in position including wire upto all floor level as per direction and to the entire satisfaction of Engineer-in-Charge. | 1161.90 | Kg | Per Kg. | | #NAME? | |
| 2.00 | Excavation in earth and filling in 15 cm layers in foundation and plinths including ramming, watering and consolidating upto a lead of 20 meters and lift upto 1.50 meters.spade and pick work. | 22.05 | Cum | Per Cum | | #NAME? | |
| Total in Figures | | | | | | | |

Total in Words

#NAME?

TERMS AND CONDITIONS: -

1. The work will be got executed as per IPH specifications.
2. Security, GST, income tax, labour cess and other statutory deduction will be deducted as applicable.
3. The contractor is fully responsible for watch and ward of the material at site of work.
4. Nothing shall be paid for rejected work/material.
5. Cement @ 255/-per bag & steel free of cost will be issued from IPH store Nalagarh.

Executive Engineer,
I&PH Divn., Nalagarh.

Job No. 5

| * SCHEDULE OF QUANTITY * | | | | | | | |
|---|---|-----------|------|---------|-------------------|----------|--------|
| Name of work :- Aug. of LWSS to PC habitation Baroona in Tehsil Nalagarh Distt. Solan (HP)(SH:- Supply & erection of Pumping machinery with allied accessories) | | | | | Estimated cost :- | 450000 | /-only |
| | | | | | Earnest money :- | 9000 | /-only |
| | | | | | Time Limit :- | 3 Months | |
| S.No | Description of item. | Quantity. | Rate | Unit | Amount. | | |
| 1 | Supply, erection, testing & commissioning of submersible pumping set of reputed make such as KSB/Calama/BS/Johnston/ Kirloskar/ Amrut/Sabar/Oswal/Worthington conforming to latest relevent BIS code. The pump should be fitted with free flow impellers of bronze /suitable alloy as per BIS 5659 or latest with up to date ammendments suitable for raw/clear water having Charcterstics as mentioned in item No.1 (a) having greased packed bearings & shell with wound stator on motor side & with shaft protection sleeve on pump side ensuring better life for shaft conforming to BIS specifications. The pump shall be directly coupled to a submersible motor of Kirloskar/NGEF/Jyoti / Crompton make conforming to relevent BIS code with up to date ammendments totally dust & water proof for submersible duty isolated from the pump by intermediate casing with double mechanical seal in oil chamber chamber & grease packed lubricated bearings & provided with stainless steel thrust bearing plate to withstand non vertical loads with minimum wear & 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 guard, errection clamps, cable clips & depth gauge etc. & suitable for operation on data given below:- | 2 set | | Per Set | | | |
| | a). Total Head in mtrs (i/c depth of Column Pipe in case of t/well) : 96.85 mtr. | | | | | | |
| | b). Capacity (in LPS) of each pump set : 10.69 LPS. | | | | | | |
| | c). Dia of R/Main (in mm) : 125 mm. | | | | | | |
| | d).Length of R/Main (in Mtrs) : 570 mtr. | | | | | | |
| | e).Dia of Column pipe (in mm) : 125 mm. | | | | | | |
| | f).Length of Column pipe (in Mtrs) : 60.50 mtrs. | | | | | | |
| | A). SITE CONDITIONS:- | | | | | | |
| | i). Location of Site :- Near Village Kartiru Majra | | | | | | |
| | ii) The altitude of place in which the motor is intended to work :- 450.00 mtrs. | | | | | | |
| | iii) Humidity :- Wheather generally remains humid during monsoon season. | | | | | | |
| | iv). Nature of atmosphere :- As normally encountered in Shivalik Ranges. | | | | | | |
| | v). Detail of quality of water :- Clear cold water | | | | | | |
| | vi).Water free from sand or not :- Yes. | | | | | | |
| | vii). Water corosive or not :- Not. | | | | | | |
| | viii).Turbidity :- 50 PPM. | | | | | | |
| | ix). Type of well :- Tubewell. | | | | | | |
| | x). Inside Dia of Well :- 300/ 200 mm | | | | | | |
| | xi). Depth of water during HFL in the pond :- | | | | | | |
| | xii). Max. draw down :- 7.50 mtrs. | | | | | | |
| | xiii). Depth of T/well well :- 128 mtrs. | | | | | | |
| | xiv). Any other information or requirement :- ---- | | | | | | |
| | B). OPERATING CONDITIONS :- | | | | | | |
| | i). Type of current :- AC three/single phase | | | | | | |
| | ii). Operating frequency :- 50HZ. | | | | | | |
| | iii). Rated voltage :- 400 (+/-) 10% volts | | | | | | |
| | iv). System of earthing if any to be adopted :- Double loop earthing as per BIS 3043-1987 latest with upto date ammendments. | | | | | | |
| | v). Speed of revolution :-To be quoted by tenderer. | | | | | | |
| | vi). Direction of rotation :- To be quoted by tenderer. | | | | | | |
| | vii). No. of working hours per day :- 8.00 hours. | | | | | | |

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| viii).The max. Temp. of cooling air & water in the place in which the pumpset is intended to work in ordinary service :- 35 degree.(Generally warm). | | | | | |
| C). MOTOR:- | | | | | |
| i). Ref to BIS code :- BIS 9283-1979 or latest with upto date ammendments. | | | | | |
| ii). Type of enclosure of motor :- As per BIS 4691-1985 or latest with up to date ammendments | | | | | |
| iii). Type of duty :- "S1" i.e. Continuous duty type as per IS-12824-1989 or latest with up to date ammendments. | | | | | |
| iv).Mechanical out put in KW :- Suitable for driving submersible pumps required for duties specified against pumps. To avoid overloading of motor a margin of about 15-20% may be kept in the rated out put of prime mover. | | | | | |
| v). Class of insulation :- Class ~B~ . | | | | | |
| vi).Max.permissible temp. rise of motor reqd. if different from that given in B (viii) above :- To be specified by the tenderer. | | | | | |
| vii). Particulars of test reqd. & where they are to be conducted:- As per terms & conditions attached. | | | | | |
| viii). Particulars as to whether voltage limiting device will be employed:- Star Delta starter, oil immersed,fully automatic to be installed between bus bar & motor. Shunt capacitor is also proposed to be installed for improving the power factor at site. | | | | | |
| (NOTE:- Star delta starter upto 37.5 KW & ATS for 37.5 KW & above) | | | | | |
| ix). Type of motor :- As per BIS 9283-1979 or latest with upto date ammendments. | | | | | |
| x). Details of shaft extension reqd :- To work with the pump offered satisfactorly. | | | | | |
| xi). Breakway torque in terms of rated load torque & the corresponding breakway starting current which may be taken from the supply with the starting apparatus in circuit :- Breakway torque to be given by the tenderer but the starting current should not exceed 2.5 times of the full load current. | | | | | |
| xii). Nature of load & any information regarding the driven machine which has a bearing upon the torque reqd. during the accelerated period, the kinetic energy of the moving parts to be accelrated & No.of starts during a specified period:- To work with the pump offered satisfactorly. | | | | | |
| xiii) Where possible fault capacity of the system to which the motor is connected :- The motor should be able to withstand initial current of 2.5 times the rated current for two minutes without suffering damages or permanent deformations . | | | | | |
| D). PUMPS:- | | | | | |
| i) Nos of pumps required :- 2 Nos. Pump. | | | | | |
| ii). Spare parts required :- For two years normal maintenance as recommended by manufacturer. | | | | | |
| iii). Type of drive :- Electric induction motor. | | | | | |
| iv). Optional fittings required :- ----- | | | | | |
| PUMP OPERATING CONDITIONS:- | | | | | |
| i). Capacity of pump (in lps) :- 10.69 LPS. | | | | | |
| ii). Total head (in Mts.) :- 96.85 Mtrs. | | | | | |
| If total head is not known then following details be provided:- | | | | | |
| a) Static head (in mtrs):- | | | | | |
| b) Minimum depth of water (in mtrs) :- | | | | | |
| c) Seasonal Variation in water level (in mtrs):- | | | | | |
| d) Ground level to max. water level (in mtrs) :- | | | | | |
| e) Ground level to delivery point (in mtrs):- | | | | | |
| f) Pressure in the suction tank (in kg/cm^2)- | | | | | |
| g) Pressure in the delivery tank (in kg/cm^2) :- | | | | | |
| iii). Length of R/Main (in mtrs):- 570.00 mtrs. | | | | | |
| iv). Dia of R/Main (in mm):- 125 mm. | | | | | |
| v). Length of Column pipe (in mtrs) :- 60.50 mtrs. | | | | | |
| vi). Dia of Column pipe (in mm) :- 125 mm | | | | | |
| vii). Turbidity of water (in ppm) :- 50PPM | | | | | |
| viii). Drive type :- Electric driven. | | | | | |
| ix). Limits of total head in which the pump is reqd. to operate :- (-) 15% to (+) 10% of total head. | | | | | |
| x) Suction/delivery size of pump :- To be specified by the tenderer. | | | | | |
| xi). Efficiency of pump at :- To be specified by the tenderer. | | | | | |
| a) duty head of as mentioned in in item No.47 (a) :- 96.85 mtrs. | | | | | |
| b) (+) 10 % head of as mentioned in in item No.46 (a) :- 106.53 mtrs. | | | | | |
| c) (-) 15 % head of as mentioned in in item No.46 (a) :- 83.32 mtrs. | | | | | |

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|---|---|---|------|--|------|
| | xii). Material of construction :- To be specified by the tenderer (manufacturers certificate to be appended) | | | | |
| 2 | Supplying and installation at site of suitable direct on line/oil immersed star delta/ATS/stator rotor starter of standard make such as MEI/Kilburn/Jyoti/ Siemens/Larson & Tubro conforming to BIS-8544-1979 latest with up to date ammendments for squirrel cage/slip-ring motor (make to be specified by the tenderers) mounted on panel board with magnetic type over load release & dashpot,time lag,under voltage release with initial oil filling . | 1 | No. | | Each |
| | Note:- Star - delta - starter upto 37.5 KW , ATS between 37.5 KW to 50 KW and stator rotor starter with slipring motor beyond 50 KW. | | | | |
| 3 | Providing M.S. sheet 16 SWG steel fabricated floor mounted closed almirah type switch board including angle iron post of suitable height and size ISA 40x40x6mm duly painted comprising and capable of mounting the following accessories including cost of P & F of these accessories with all internal electric connections. The drawing of panel board shall be subject to approval of Engineer in charge.(Each pannel board comprising below mentioned accessories) | | | | |
| | a). Ammeter AC supply,100 mm dia circular dial Auto electric/AE/IMP/Havells make of suitable range for above motor with selector switches conforming to BIS 1248-(P-II)1983 latest with up to date ammendments. | 1 | No. | | Each |
| | b). Voltmeter AC supply,100 mm dia circular dial Auto electric/AE/IMP/Havells make of suitable range for above motor with selector switches conforming to BIS 4064-1978 with up to date ammendments. | 1 | No. | | Each |
| | c). ICTP switches with HRC fuses of Kilburn/Larsen & Tubro/Standard/Siemens/Havells make and having capacity 30% extra of the operational rating of motor as per BIS 4064-1978 with upto date ammendments immediatly after the power meter of HPSEB. | 1 | Set. | | Each |
| | d).Busbar chamber having three copper bars of suitable rating for full length equal to width of board of three 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 upto date ammendments. | 1 | No. | | Each |
| | e).ACB/MCB/Oil circuit breaker of suitable capacity of Kilburn/L & T/MEI/GEC/Standard make on incoming feeder for motors offered by the tenderer conforming to BIS 2516-1985 latest with upto date ammendments with initial oil filling whenever required & 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 up to date ammendments. | 1 | Set. | | Each |
| | g) Earth leakage circuit breaker/relay of recommended make such as Kilburn/L&T/MET/GEC conforming to BIS-2516-1977 with upto date ammendments and of suitable range which should have control box, oprating handel and trip/reset push button, on/ off indicators, re-indicating off spring condition of the circut breaker for over current protection. The circuit should be equipped with magnet thermal release with metallic tap CTS. It should also be fitted earth fault for tripping of breaker on occurrence of earth fault on/ of breaker load side. | 1 | No. | | Each |
| | h).Hour run meter of reputed make of four digit capacity conforming to BIS-722 (latest edition)/recommendations. | 1 | No. | | Each |
| | i).Suitable three phase voltage monitor relay with all protections & usual indicators with electric sirens against single phasing, low voltage, high voltage & overloading & phase voltage difference as per IS-3842 with up to date ammendments. | 1 | No. | | Each |
| | j).Single phase preventor of reputed make & suitable capacity conforming to IS:1248 (P-V)-1983 with up to date ammendments | 1 | No. | | Each |
| 4 | a). Providing and fixing at site of Kirloskar/Leader/ KSB/ Fouress make of suitable dia cast irondouble flanged sluice valve of 125 mm diaof class PN 1.0 having size one size larger than the nominal dia of delivery of the pump or equal to dia of column pipe (in case of Tube well) and capable of withstanding nominal seat pressure as mentioned in item No. 1-(a) (+) surge pressure conforming to standards BIS with up to date ammendments for delivery line of pump. | 1 | No. | | Each |
| | b).Providing and fixing at site of Kirloskar/Leader make of suitable size cast iron double flanged swing check type reflux valve of 125 mm dia class PN. 1.0 having bye pass arrangement & size one size larger than the nominal dia of delivery size of pump or equal to dia of column pipe (in case of tube well) and capable of withstanding nominal seat pressure as mentioned in item No.1 -(a) (+) surge pressure & conforming to standards BIS with up to date ammendments for delivery line of pump . | 1 | No. | | Each |
| 5 | a).Providing,laying,jointing & testing at site suitable size copper PVC insulated armoured power three & half core cable (for supply side) conforming to BIS 1554 (Part I) -1988 or latest with up to date ammendments of Siemens/Gloster/ICC/ EICO/National /IEC make from meter of HPSEB to circuite breaker & from circuite breaker to bus bar switch & starter (one cable carrying all three phases) including all other electrical equipment/accessories such as thimbles,flexible pipe,solder, nuts & bolts,cable glands etc. laid in pipes or trenches under floor The type,size & make will be subject to approval of HPSEB authorities. In case of non acceptance by HPSEB authorities it shall have to be replaced by the tenderer free of cost. (20 Rmt.) | 1 | Job | | Job |
| | b).Providing,laying,jointing & testing at site PVC jointless flat water proof cable (for Motor Side) as per BIS 694-1990 (latest with up to date ammendments) suitable for the pump sets offered from circuite breaker to motor & motor to starter including all other electrical equipments such as thimbles, flexible pipes, solder,nuts & bolts,cable glands etc. laid in pipes or trenches. The type,size & make will be subject to approval of HPSEB authorities.In case of non acceptance by HPSEB authorities it shall have to be replaced by the tenderer free of cost. (130 Mtr.) | 1 | Job | | Job |

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| | c) Providing and laying at site double loop earthing with Copper/G.I plate 600x600x3mm thick electrode complete with material such as charcoal, common salt, GI pipes, thimbles, nuts & bolts, digging of pits, GI wiring & 25x5mm copper strips of required capacity conforming to BIS 3043-1987 latest with up to date amendments suitable for above motors & other electrical equipments. | 1 | Job | | Job | |
| | d).Supply & erection at site of floor/wall mounted power factor shunt capacitor conforming to BIS 2834-1986 or latest with upto date amendments of BHEL/GEC/Machneil/ Mager/Bajaj/L&T make to raise the prevailing power factor at site to 0.95 for direct connection to induction motor individually, of required KVAR according to HP of motor offered including cable Siemens/Gloster/ICC make from busbar chamber to capacitor & also including L&T/Kilburn/Standard/Siemen/Havells make ICTP switches conforming to BIS 4064-1978 or latest with HRC fuses (Range to be specified by the tenderer). | 1 | Job | | Job | |
| 6 | Supplying and fixing at site of 100mm dia circular dial pressure gauge of suitable range & standard make such as Fiebeg/Bourden/Precision/PREGA with all accessories such as stop cock, copper tubing etc. conforming to BIS 3624-1987 or latest with up to date amendments. | 1 | No. | | Each | |
| 7 | lowering of GMS pipe (MG) column pipe assembly of size 125 mm dia as indicated in item 1 (e) including MS Flanges of table -5 capable to withstanding nominal pressure as mentioned in item no. 1(a) & confirming to IS 6392-1971 with up to date amendments including the cost of rubber /asbestos gasket of maximum 3 mm thickness as per IS: 2712 -1979 and required numbers of nuts and bolts as per IS 1364 -1983. The column pipe should be provided & lowered as per the direction of engineer incharge. The same shall be of suitable thickness, grade & specification capable of withstanding minimum 1.5 times the total pressure as indicated in item no. 1(a) unless otherwise specified properly jointed at every three mtrs including all necessary accessories like increaser/ reducer , flanges ,tees, bends etc. including supporting clamps (2 Nos) at the top of assembly and i/c cost of jointing of column pipe with R/Main as per the direction of engineer-in charge (63.50 Mtr.)(60.50 Mtr. column pipe + 3 Mtr. delivery pipe) | 1 | Job | | Job | |
| | <i>(In case source is T/well)</i> | | | | Total | |
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| | * TERMS AND CONDITIONS * | | | | | |
| 1 | The work will be executed as per IPH/PWD specification and as per the directions of the Engineer-in-charge. | | | | | |
| 2 | Security, GST, income tax, labour cess and other statutory deduction will be deducted from each bill of the contractor as per clause of agreement and as per rules prevalent at the time of payment. | | | | | |
| 3 | The rate shall be tendered by the contractor / inclusive of all carriage of material and taxes etc. | | | | | |
| 4 | The contractor is fully responsible for watch and ward of the materials at site of work & nothing shall be paid extra for this purpose. | | | | | |
| 5 | GI pipe shall be supplied by the Deptt. free of cost from IPH store Nalagarh. | | | | | |
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| | | | | | Executive Engineer | |
| | | | | | IPH Division Nalagarh. | |
| | Name of Work:- Aug. of LWSS to PC habitation Baroona in Tehsil Nalagarh Distt. Solan Distt. (HP). (SH:- Supply & erection of pumping machinery with allied accessories) | | | | | |
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| | <i>TERMS AND CONDITIONS FOR PUMPING MACHINERY .</i> | | | | | |
| 1 | The bidder shall give the name of manufacturer/ authorized dealer from whom he shall arrange the pumping machinery . An arrangement with manufacturer/ authorized dealer shall be entered into by the bidder in which manufacturer/ authorized dealer shall remain responsible for repair / replacement of pumping machinery during the warranty period. | | | | | |
| 2 | 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 motors to the consignee within 30 days after issue of the letter of intent/award by the Engineer In-charge. The copy of supply order/intent to the consignee should also accompany the dealership certificate of the dealer for the pumping machinery in case the pumps and motors are arranged from the authorized dealer. | | | | | |
| 3 | The firm shall arrange dispatch of offered pumps and motors to the consignee direct from the manufacturers/their authorized dealer of the pumping machinery for which the supply order/indent has been placed by the firm. The packing slip should indicate the details of materials in the package and material of construction of pumps and motors. | | | | | |

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| 4 | The shop test for the pumps and motors shall be carried out at manufacturer's works in the presence of representative of the department as per IS: 325-1978. The test performance certificate of the pumping machinery shall be arranged by the firm from the manufacturers and get it approved from the Engineer In-charge before actual dispatch of the pumping machinery. | | | | |
| 5 | 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 aforesaid equipment at the time of quoting rates and shall quote item rates for the same also. | | | | |
| 6 | The firm shall supply the manufacturer's manuals for the operation and maintenance of the pumping equipment. | | | | |
| 7 | 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 the testing period. | | | | |
| 8 | The characteristic curves/performance curve chart in original of the offered pumping equipments shall be up loaded with the tender by the participating firms failing which the tender shall be rejected. | | | | |
| 9 | The firm shall supply & get the same approved from Engineer In-charge, the layout drawing in respect of various components, such as suction pipes, valves, cable, trenches, control panel etc. from the foot valves location to the common header which shall extend up to 5 meter from the outer wall of the pump house towards rising main. The details of foundations required for various components shall also be supplied by the firm within 30 days of the letter of intent/award. | | | | |
| 10 | The installation of pumping machinery above 100HP shall be inspected by the technical representative of the manufacturer of rank not less than that of a service engineer, at the work site and inspection certificate shall be supplied to the Engineer In-charge. This inspection shall be in addition to the test report and nothing extra shall be paid on this account. | | | | |
| 11 | The wiring and installation of electric equipment shall be as per HPSEB rules and regulations and subject to the approval of the Chief Electrical Inspector and or his authorized officer. Any defect pointed out shall be rectified by the firm without any extra cost. The wiring and installation of all electric equipment shall be done by licensed contractor of approved class of HPSEB and test report shall be got accepted from the HPSEB authorities on their approval format (Form-D) for release of power connection by the firm without extra cost. | | | | |
| 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 the firm to the HPSEB. | | | | |
| 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 duties such as sales tax, excise duty and local taxes extra. | | | | |
| 14 | The rates shall be quoted only on the format of schedule of quantities uploaded on line giving all specified data so desired there in. | | | | |

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| 15 | The rates offered for, the specified makes in the schedule of quantities only shall be considered. Rates quoted for part of non specified makes shall lead to rejection of the tender. | | | | |
| 16 | The site of works are located at Kartiru Majra. The rates quoted by the firm shall be inclusive of all mechanical and manual transport within all leads and lifts. | | | | |
| 17 | All the equipments /material shall conform to the relevant BIS specifications wherever applicable and in its absence to any accepted national/International standards. | | | | |
| 18 | All the equipment shall be guaranteed against any manufacturing defect including metallurgy and its performance for a period of 12(twelve) months from the date of commissioning. Any defect if noticed within the stipulated period shall be rectified by the firm at its own cost within 15 days of bringing the same to its notice. The guarantee clause shall be substantiated by a guarantee bond of a Nationalized Bank for an amount equal to the cost of pumping and electric equipment (accessories included) pledged in the name of the Executive Engineer in-charge at the time of applying for refund of security deposits. The guarantee bond shall be released after the expiry of the guarantee period. The Pumping machinery shall be supplied after completing all civil works etc. | | | | |
| 19 | 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 extra cost. However, the cost of electricity and water shall be borne by the deptt. | | | | |
| 20 | 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, the efficiency falls beyond 2.5% to a maximum of 5%, 1% cost of the pump set for 1% fall of the efficiency shall be deducted. In case of fall of efficiency beyond 5% the pump set shall be rejected and cost of the defected pump set recovered from the pledged Bank guarantee & or from the security deposit as the case may be. | | | | |
| 21 | 80% (eighty percent) payment of the cost of pumping machinery and equipment less 10% security and other statutory recovery shall be made after receipt of complete pumping machinery i.e. pump and motor received together at site of work in good condition. The balance 20% cost after deduction of the security and other recoveries shall be released after successful and satisfactory installation, testing of the entire equipment. Ten percent security deposit shall be released as stipulated in the agreement. | | | | |
| 22 | 80% (eighty percent) installation charges shall be released after satisfactory installation of all the pumping and electrical equipment. Remaining 10% of installation charges shall be released after testing of the entire equipment. | | | | |
| 23 | The installation of pumping machinery shall be inspected by the technical representative of manufacturer of rank not less than that of service Engineers at site of work and inspection certificate shall be supplied by to the engineer in charge. This inspection shall be in addition to the test report and nothing extra be paid on this account. | | | | |
| 24 | Unless otherwise specified delivery pipe and pipe for common header shall be of same specification as of Rising Main in initial R.D.s near pump house. | | | | |
| 25 | Only manufacturers or their authorized dealers shall be eligible to participate in the tender process. They shall have to provide certificate from principal manufacturers. | | | | |
| 26 | Those firms/persons having sub-dealership of any approved make of pump shall be allowed to participate in tender process if and only if they are authorized dealer of any one of the approved make of pump. | | | | |
| 27 | Documentary proof of dealership/sub-dealership for supplying pumping machinery of NIT make must be uploaded with the tender by the participating firms/ contractors. | | | | |
| 28 | In case a principal manufacturer or authorized dealer offers a Pump of which he is not a manufacturer or an authorized dealer, he must at least have sub dealer-ship of the pump "make" offered by him . | | | | |
| 29 | Any authorized dealer participating in the tender process of the given work shall not be allowed to give authority to any individual/firm for the same work. | | | | |
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Executive Engineer

IPH Divn.Nalagarh.