

		<u>Job No-1</u>				
<b>SCHEDULE OF QUANTITY</b>						
<b>Name of work:-</b> Providing DWSS to Solan Town from Giri River. (SH:- Extraction of old filter media & providing, placing & testing of new filter media for water treatment plant of 14.72 MLD at Gaura in Tehsil Kandaghat Distt. Solan).		Estimated Cost Rs:- 3,27,198/- Earnest Money Rs:- 6500/- Time Period :- One month.				
Sr. No.	Description	Qty.	Rate		Unit	Amount
			In fig.	In words		
1	Extraction of sand from sand bed and replacement with fresh media as per the specification of I&PH Department & to the satisfaction of Engineer-in-charge.	29.6			Cum	
2	Providing and placing (after lab test through laboratory) in horizontal layers filter media duly screened washed away cleaned as specified by Engineer-in-charge including all carriage lift upto site and testing complete.					
a)	Top layer course fine sand UC= 1.3 to 1.7 & effective size 0.45mm to 0.70mm having specific gravity G= 2.55 to 2.65.	29.6			Cum	
					<b>Total Rs.:-</b>	
<b><u>TERMS AND CONDITONS:-</u></b>						
1	The work should be done as per IPH specification and direction of Engineer-in-Charge.					
2	Security, GST and other statutory deduction will be deducted from the contractor's bill as applicable.					
3	Nothing shall be paid for rejected work/material					
4	The repair/material will be guaranteed for a period of one year.					
				<b>Executive Engineer</b>		
				<b>IPH Division Solan</b>		

				<b>Job No2</b>		
<b>SCHEDULE OF QUANTITY</b>					Estimated cost Rs.:- 2,03,584/-	
<b>Name of work:-</b> Providing WSS to village Nauni Majhgaon in Tehsil & Distt. Solan HP. (SH:- P/L jointing & commissioning of rising main bore well No.1 & 2 and supply & erection of submersible pump set with allied accessories bore well No.1 & 2).					Earnest Money Rs.:- 4100/-	
					Time Period:- 3 months.	
<b>Sr. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Rate</b>		<b>Unit</b>	<b>Amount</b>
			<b>In fig.</b>	<b>In words</b>		
	<b><u>P/L jointing &amp; commissioning of rising main for bore well No.1 &amp; 2.</u></b>					
1	Excavation in drains and channel etc in earth work in all kinds of soil such as kankar, moorum shingles conglomerate saturated soil and decomposed soft and hard rock hard rock including including dressing of sides and beds , disposing of excavated earth with all leads, lifts disposed earth to be levelled and neatly dressed and then returning the stacked soil into foundation and trenches etc. including ramming and consolidating the same wherever required with all leads, lifts and including jungle clearance and as per the direction of Engineer-in-charge.	256.5			P/Cum	
2	Laying testing & commissioning at site in trenches following bevelled ended BIS marked GMS pipes following dia of & grade as under confirming to BIS 1239(Part-1) 1990 or latest with up to date amendments, capable of withstanding required test pressure as prescribed in BIS code, in random lengths of 5.5 to 6.5 mtr. Pipe's ends should be bevelled suitable for but weld , including the cost of jointing with but welding confirming to IS 816-1969 or latest as applicable (leak proof) in three layers at site of work with welding rods of standard make & all allied accessories whatever required for welding at site, tail pieces , teen, bends manufactured from parent pipes etc as per site requirement i/c carriage in all leads & lifts as directed by Engineer-In-charge (Earth work shall be measured & paid for separately). There shall be flanged joint after every 90.00 mtr which shall be measured & paid for separately.					
	RD 0/0 to 780    40mm dia    (HG)	780			Rmt	
	RD 0/0 to 780    32mm dia    (HG)	45			Rmt	
3	Providing, welding and fixing BIS marked plate flanges of following dia (nominal bore) & appropriate tables as detailed below confirming to IS 6392-1971 or latest with up to date amendments to MSERW/G.I. pipes after every 90 metres or as per site requirement including cutting of pipes wherever required welding in three layers (leak proof) confirming to specifications as prescribed in relevant I.S code i.e IS 816-1969 or latest as applicable with up to date amendments with nuts bolts & washers & specials etc. Confirming to IS-1963 or latest with up to date amendments including packing sheet i.e asbestos fibre sheet minimum 3mm thick and painting with anticrossive paints complete in all respect in all leads, lifts and carriage of material at site and as directed by the Engineer-in-charge.					
	<b>Rising main pipe 40mm dia</b>					
	RD 0/0 to 180    flanged table-28.	2			Pair	
	RD 180 to 540    flanged table-17.	4			Pair	
	RD 540 to 780    flanged table-5.	3			Pair	
	<b>Rising main pipe 32mm dia</b>					
	RD 0/0 to 45    flanged table-5.	1			Pair	

	<b>Supply &amp; Erection of Submersible Pumping Machinery with allied accessories in Bore well No.-1</b>					
4	Supply, erection, testing & commissioning of submersible pumping set of reputed make such as KSB/BS/ Johnston/ worlthington 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 clear water 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 squirrel cage electric induction 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 of 5HP = 10HP			P/HP	
a)	Total Head in mtrs (i/c depth of column pipe in case of tube well):- 241 mtrs.					
b)	Capacity (in LPS) of each pump set:- 0.84 LPS					
c)	Dia of R/Main (in mm) :- 40mm.					
d)	Length of rising main (in metres):- 780 mtrs.					
e)	Dia of column pipe (in mm):- 32mm					
A)	<b>SITE CONDITIONS:-</b>					
i)	Location of Site:-					
ii)	The altitude of place in which the motor is intended to work:-					
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 water from source					
vi)	Water free from sand or not:- Not					
vii)	Water corosive or not:- Not					
viii)	Turbidity (if any):-					
ix)	Type of well:- Borewell at Thakurdawara					
x)	Inside dia of well:-					
xi)	Depth of water during HFL in the pond:-					
xii)	Max. draw down:-					
xiii)	Depth of well:-					
xiv)	Any other information or requirement:-					
B)	<b>OPERATING CONDITIONS:-</b>					
i)	Type of current:- AC three/single phase					
ii)	Operating frequency:- 50 HZ.					
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 RPM:- To be quoted by tenderer					
vi)	Direction of rotation:- To be quoted by tenderer					
vii)	No. of working hours per day:- 12 hours					
viii)	The max.Temp. of cooling air & water in the place in which the Pump set is intended to work in ordinary service:- Generally warm					

<b>C) MOTOR:-</b>					
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 pump 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 To be specified by the tenderer 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 up to dated ammendments.					
x) Details of shaft extension reqd:- To work with the pump offered.					
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 baccelrated & No.of starts during a specified period:- Sufficient to work the pump offered.					
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.					
<b>D) PUMPS:- BIS 1520-1980 read with BIS 9137-1978 both with upto date ammendments.</b>					
i) Nos of pumps reqd.:- 2 Nos. Pump (One will work at a time & One No. will act as stand bye)					
ii) Spare parts required:- For two years normal maintenance as recommended by manufacture.					
iii) Type of drive:- Electric induction motor.					
iv) Optional fittings reqd.:-					
<b>E) PUMP OPERATING CONDITIONS:-</b>					
i) Capacity of each pump (in lps) :- 0.84 LPS					
ii) Total head (in Mts.) :- 241 mtrs					
If total head is not known then following details be provided:-					
i) Static head (in mtrs):-					
ii) Minimum depth of water (in mtrs) :-					
iii) Seasonal Variation in water level (in mtrs):-					
iv) Ground level to max. water level (in mtrs) :-					
v) Ground level to delivery point (in mtrs):-					
vi) Pressure in the suction tank (in kg/cm <sup>2</sup> )-					
vii) Pressure in the delivery tank (in kg/cm <sup>2</sup> ) :-					
iii) Length of R/Main (in mtrs):- 780 mtrs.					
iv) Dia of R/Main (in mm):- 40 mm					
v) Length of column pipe (in mtrs):- 60 mtrs.					
vi) Dia of column pipe (in mm):- 32 mm					

vii)	Turbidity of water (in ppm):-					
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 as mentioned in item 4(a)					
	b) (+) 10 % of head as mentioned in item 4(a)					
	c) (-) 15 % of head as mentioned in item 4(a)					
xii)	Material of construction:- To be specified by the tenderer (manufacturers certificate to be appended)					
5	Supply & 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 confirming to BIS 8544-1979 latest with upto 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 fitting.	2			Nos.	
	Note:- Star delta- starter upto 37.5KW, ATS between 37.5KW to 50KW and stator rotor starter with slipring motor beyond 50KW.					
6	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 i/c the cost of providing & fixing the following accessories with all internal electric connections. The drawing of panel board shall be subject to approval of Engineer in charge.	1			No.	
a)	Supply & fixing 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.	
b)	Supply & fixing 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.	
c)	Supply & fixing 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			No.	
d)	Supply & fixing 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.	
e)	Supply & fixing 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.	
f)	Supply & fixing 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			No.	
g)	Supply & fixing 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.	
h)	Supply & fixing Hour run meter of reputed make of four digit capacity conforming to BIS-722 (latest edition)/ recommendations.	1			No.	

i)	Supply & fixing 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.	
j)	Supply & fixing Single phase preventor of reputed make & suitable capacity conforming to IS:1248 (P-V)-1983 with up to date ammendments	1			No.	
7 (a)	Supply & Fixing in position at site Kirloskar/ Kilburn/ IVC/ Fouress/ Gled/ BHEL/ Leader/ KSB/ pelican make of suitable size cast steel double flanged sluice valve having size one size higher 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 mentionmed in item No. 4(a) + surge pressure & conforming to API- standards with up to date ammendments <b>for delivery line of pump. (The class of valve shall be ASA- 300).</b>	1			No.	
(b)	Supply & fixing in position at site Kirloskar/ Kilburn/ IVC/Fouress/ Gled/ BHEL/ Leader/ KSB/ pelican make of suitable size cast steel double flanged swing check type reflux valve for delivery line of pump having bye pass arrangement & size one size higher than the nominal dia of delivery of pump or equal to the dia of column pipe (in case of tube well) and capable of withstanding nominal seat pressure as mentioned in item No. 4(a) + surge pressure & conforming to API- standards with up to date ammendments <b>for delivery line of pump</b> (The class of valve shall be ASA- 300).	1			No.	
8 (a)	Providing, laying & fixing in position at site suitable size copper PVC insulated armoured power three & half core cable confirming to BIS 1554 (part I) -1988 or latest with up to date ammendments of Siemen/ Gloster/ ICC/ EICO/ National/ IEC make from meter of HPSEB to circuit breaker & non circuit breaker to bus bar switch & starter (one cable carrying all three phase) 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 authorites. In case of non acceptance by HPSEB authorities it shall have to be replaced by the tenderer free of cost including carriage of material in all leads & lifts and as directed by the Engineer-in-charge. (10 mtr).	1			Job	
(b)	Providing, laying & fixing in position at site submersible PVC jointless flat water proof cable as per BIS 694-1990 ( latest with upto 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 thimbles. 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. (2x70= 140mtr).	1			Job	
(c)	Providing & laying at site double loop earthing with copper plate 600x600x3mm thick, electrode complete with material such as charcol, common salt, GI pipes, thimbles, nuts & bolts, digging of pits, GI wiring & 25x5mm copper strips of required capacity confirming to BIS 3043-1987 latest upto date ammendements suitable for above motors & other electrical equipments i/c cost of carriage of material upto all leads & lifts and as directed by Engineer-in-charge.	1			Job	
(d)	Supply & errection of floor/ wall mounted power factor shunt capacitor conforming to BIS 2834-1986 or latest with upto date ammendments 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) including cost of carriage of material upto all leads & lifts and as directed by Engineer-in-charge.	1			No.	
9	Supplying & 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. confirming to BIS 3624-1987 or latest with upto date ammendments.	1			No.	

10	Providing and lowering of GMS (HG) column pipe assembly of size as indicated in item 4(e) including MS flanges of appropriate table capable to withstand nominal pressure as mentioned in item No. 4(a) & confirming to IS: 6392-1971 with upto date ammendments including the cost of rubber/ asbestos gasket of maximum 3mm 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 direction of Engineer-in-charge. The same shall be suitable thickness & grade specification capable of withstanding 1.5 times the total pressure as indicated in item No. 4(a) unless otherwise specified and properly jointed at every three mtr. including all necessary accessories like increaser/ reducer, flanges, tees, bends etc. including supporting clamps (2Nos) at the top of assembly and as per the direction of Engineer-in-charge. (70mtr. including delivery pipe of 10.00 mtr).	1			Job	
	<b>Supply &amp; Erection of Submersible Pumping Machinery with allied accessories in Bore well No.-2</b>					
11	Supply, erection, testing & commissioning of submersible pumping set of reputed make such as KSB/BS/ Johnston/ worlthinton confirming 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 clear water 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 squirrel cage electric induction 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, erection clamps, cable clips & depth gauge etc. & suitable for operation on data given below:-	2 Set of 2 HP = 4HP			P/HP	
a)	Total Head in mtrs (i/c depth of column pipe in case of tube well):- 114 mtrs.					
b)	Capacity (in LPS) of each pump set:- 0.58 LPS					
c)	Dia of R/Main (in mm) :- 32mm.					
d)	Length of rising main (in metres):- 45 mtrs.					
e)	Dia of column pipe (in mm):- 32mm					
A)	<b>SITE CONDITIONS:-</b>					
i)	Location of Site:-					
ii)	The altitude of place in which the motor is intended to work:-					
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 water from source					

vi)	Water free from sand or not:- Not					
vii)	Water corosive or not:- Not					
viii)	Turbidity (if any):-					
ix)	Type of well:- Borewell at Ragaha					
x)	Inside dia of well:-					
xi)	Depth of water during HFL in the pond:-					
xii)	Max. draw down:-					
xiii)	Depth of well:-					
xiv)	Any other information or requirement:-					
<b>B)</b>	<b>OPERATING CONDITIONS:-</b>					
i)	Type of current:- AC three/single phase					
ii)	Operating frequency:- 50 HZ.					
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 RPM:- To be quoted by tenderer					
vi)	Direction of rotation:- To be quoted by tenderer					
vii)	No. of working hours per day:- 12 hours					
viii)	The max.Temp.of cooling air & water in the place in which the Pump set is intended to work in ordinary service:- Generally warm					
<b>C)</b>	<b>MOTOR:-</b>					
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 pump 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 To be specified by the tenderer 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 up to dated ammendments.					
x)	Details of shaft extension reqd:- To work with the pump offered.					
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 baccelrated & No.of starts during a specified period:- Sufficient to work the pump offered.					
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.					

<b>D)</b>	<b>PUMPS:- BIS 1520-1980 read with BIS 9137-1978 both with upto date ammendments.</b>				
i)	Nos of pumps reqd.:- 2 Nos. Pump (One will work at a time & One No. will act as stand bye)				
ii)	Spare parts required:- For two years normal maintenance as recommended by manufacture.				
iii)	Type of drive:- Electric induction motor.				
iv)	Optional fittings reqd.:-				
<b>E)</b>	<b>PUMP OPERATING CONDITIONS:-</b>				
i)	Capacity of each pump (in lps) :- 0.58 LPS				
ii)	Total head (in Mts.) :- 114 mtrs				
	If total head is not known then following details be provided:-				
i)	Static head (in mtrs):-				
ii)	Minimum depth of water (in mtrs) :-				
iii)	Seasonal Variation in water level (in mtrs):-				
iv)	Ground level to max. water level (in mtrs) :-				
v)	Ground level to delivery point (in mtrs):-				
vi)	Pressure in the suction tank (in kg/cm <sup>2</sup> ):-				
vii)	Pressure in the delivery tank (in kg/cm <sup>2</sup> ):-				
iii)	Length of R/Main (in mtrs):- 45 mtrs.				
iv)	Dia of R/Main (in mm):- 32 mm				
v)	Length of column pipe (in mtrs):- 60 mtrs.				
vi)	Dia of column pipe (in mm):- 32 mm				
vii)	Turbidity of water (in ppm):-				
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 as mentioned in item 11(a)				
	b) (+) 10 % of head as mentioned in item 11(a)				
	c) (-) 15 % of head as mentioned in item 11(a)				
xii)	Material of construction:- To be specified by the tenderer (manufacturers certificate to be appended)				
12	Supply & 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 confirming to BIS 8544-1979 latest with upto 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 fitting.	2			Nos.
	Note:- Star delta- starter upto 37.5KW, ATS between 37.5KW to 50KW and stater rotor starter with slipring motor beyond 50KW.				
13	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 i/c cost of providing & fixing the following accessories with all internal electric connections. The drawing of panel board shall be subject to approval of Engineer in charge.	1			No.
a)	Supply & fixing 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.
b)	Supply & fixing 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.

c)	Supply & fixing ICTP switches with HRC fuses of Kilburn/Larsen & Tubro/Standard/Siemen/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			No.	
d)	Supply & fixing 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.	
e)	Supply & fixing ACB/MCB/Oil circuit breaker of suitable capacity of Kilburn/L & T/MEI/GEC/Standard make on incomming 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.	
f)	Supply & fixing 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			No.	
g)	Supply & fixing 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 occurance of earth fault on/ of breaker load side.	1			No.	
h)	Supply & fixing Hour run meter of reputed make of four digit capacity conforming to BIS-722 (latest edition)/ recommendations.	1			No.	
i)	Supply & fixing 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.	
j)	Supply & fixing Single phase preventor of reputed make & suitable capacity conforming to IS:1248 (P-V)-1983 with up to date ammendments	1			No.	
14 (a)	Supply & Fixing in position at site Kirloskar/ Kilburn/ IVC/ Fouress/ Gled/ BHEL/ Leader/ KSB/ Pelicon make of cast steel double flanged sluice valve having size one size higher 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 mentionmed in item No. 11(a) + surge pressure & conforming to API- standards with up to date ammendments <b>for delivery line of pump. (The class of valve shall be ASA- 150).</b>	1			No.	
(b)	Supply & fixing in position at site Kirloskar/ Kilburn/ IVC/Fouress/ Gled/ BHEL/ Leader/KSB/ Pelicon make of suitable size cast steel double flanged swing check type reflux valve for delivery line of pump having bye pass arrangement & size one size higher than the nominal dia of delivery of pump or equal to the dia of column pipe (in case of tube well) and capable of withstanding nominal seat pressure as mentioned in item No. 11(a) + surge pressure & conforming to API-standards with up to date ammendments <b>for delivery line of pump</b> (The class of valve shall be ASA- 150).	1			No.	
15 (a)	Providing, laying & fixing in position at site suitable size copper PVC insulated armoured power three & half core cable confirming to BIS 1554 (part I) -1988 or latest with up to date ammendments of Siemen/ Gloster/ ICC/ EICO/ National/ IEC make from meter of HPSEB to circuit breaker & non circuit breaker to bus bar switch & starter (one cable carrying all three phase) 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 authorites. In case of non acceptance by HPSEB authorities it shall have to be replaced by the tenderer free of cost including carriage of material in all leads & lifts and as directed by the Engineer-in-charge.	1			Job	

(b)	Providing, laying & fixing in position at site PVC jointless flat water proof cable as per BIS 694-1990 ( latest with upto 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 thimbles. 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. (2x70= 140mtr).	1			Job	
(c)	Providing & laying at site double loop earthing with copper plate 600x600x3mm thick, electrode complete with material such as charcol, common salt, GI pipes, thimbles, nuts & bolts, digging of pits, GI wiring & 25x5mm copper strips of required capacity confirming to BIS 3043-1987 latest upto date ammendements suitable for above motors & other electrical equipments i/c cost of carriage of material upto all leads & lifts and as directed by Engineer-in-charge.	1			Job	
(d)	Supply & errection of floor/ wall mounted power factor shunt capacitor conforming to BIS 2834-1986 or latest with upto date ammendments 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) including cost of carriage of material upto all leads & lifts and as directed by Engineer-in-charge.	1			Nos.	
16	Supplying & 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. confirming to BIS 3624-1987 or latest with upto date ammendments.	1			Nos.	
17	Providing and lowering of GMS (HG) column pipe assembly of size as indicated in item 11(e) including MS flanges of appropriate table capable to withstand nominal pressure as mentioned in item No. 11(a) & confirming to IS: 6392-1971 with upto date ammendments including the cost of rubber/ asbestos gasket of maximum 3mm 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 direction of Engineer-in-charge. The same shall be suitable thickness & grade specification capable of withstanding 1.5 times the total pressure as indicated in item No. 11(a) unless otherwise specified and properly jointed at every three mtr. including all necessary accessories like increaser/ reducer, flanges, tees, bends etc. including supporting clamps (2Nos) at the top of assembly and as per the direction of Engineer-in-charge. (70mtr. including delivery pipe of 10.00 mtr).	1			Job	
					<b>Total Rs.:-</b>	
	<b><u>TERMS AND CONDITIONS FOR PUMPING MACHINERY:</u></b>					
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 motors to the consignee within 30 days after issue of the letter of indent/award by the Engineer-in charge.					
	The copy of supply order/indent 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.					
2	The firm shall arrange dispatch of offered pumps and motors to the consignee direct from the manufacturer/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.					
3	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.					
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 aforesaid equipment at the time of quoting rates and shall quote item rates for the same also.					

5	The firm shall supply the manufacturer's 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 the testing period.				
7	The characteristic curves in original of the offered pumping equipment shall be supplied with the tender by the participating firm failing which the tender shall be rejected.				
8	The firm shall supply and 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 valve location to the common header which shall extend upto 5 meter from the outer wall of the pump house towards rising main. The detail of foundations required for various components shall also be supplied by the firm within 30 days of the letter of indent/award.				
9	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.				
10	Pumping machinery of the scheme shall be received only after construction of pump house and treatment plant.				
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 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 the licensed contractor of approved class of HPSEB and test report shall be got accepted from the HPSEB authorities on their approved 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 which is attached with the tender document giving all specified data so desired therein.				
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 rejection of the tender.				
16	The site of work is located at 13 Km distance from Solan-Rajgarh road and 0.5 Km on foot. The rates quoted by the firm shall be inclusive of all mechanical and manual transport within all leads and lifts.				
17	All the equipment/materials 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/15 months from the date of supply which ever is earlier. Any defect, if noticed, within the stipulated period shall be rectified by the firm at its own costs within 15 days of bringing the same to its notice. The guarantee clause shall be substantiated by the guarantee bound of a Nationalized bank for an amount equal to the cost of pumping and electric equipments(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.				
19	The installed pumping machinery and other allied accessories shall be tested daily for stipulated pumping hours in the NIT for a period of 7days without extra cost. However the cost of electricity and water shall be borne by the department.				
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% take of efficiency shall be deducted beyond 5% in case if fall of efficiency the pump set shall be rejected and cost of the effected pump set recovered from the pledged bank guarantee and 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 & 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. 10% security deposit shall be released as stipulated in the agreement.				

22	90%(Ninety 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 equipments.				
23	The installation of pumping machinery shall be inspected by the Technical representative of manufacture of rank not less than that of service Engineer at site of work and inspection certificate shall be supplied to the Engineer in Charge. This inspection shall be in addition to the test report and nothing shall 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 of their authorized dealers shall be eligible to participate in the tender process. They shall have to provide certificate from the 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 attached with the tender by the participating firms/contractors.				
28	In case a principal manufacturer of authorized dealer offers a pump of which he is not a manufacturer or an authorized dealer, he must at least have sub-dealership 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.				
30	A firm or a person who has not done any work of providing and fixing of pumping machinery shall not be allowed to quote of work even if he has been authorized for any particular work by authorized dealer				
31	All C.I. valves wherever required shall be of minimum class of PN 1.6.				
	<b><u>GENERAL TERMS AND CONDITIONS :</u></b>				
1	The work shall be executed as per IPH specification, relevant IS codes and CPHEEO manual to the entire satisfaction of the Engineer-in-charge.				
2	Security, GST and other statutory deductions will be made as applicable.				
3	All necessary documents such as income taxes clearance certificate, renewal of registration,GST number shall have to be produced by the contractor/firm before purchase of tender documents.				
4	The rates of all the items should be inclusive of all taxes, duties, levies, carriage of material with in all leads and lifts etc. to site of work				
5	When the pipe is supplied within the tolerance permitted by IS codes, the payment for negative side shall be made on pro-rata difference of weight derived on through rate but nothing extra shall be paid for positive side.				
6	The bends of required degree duly flanged shall be provided by the contractor/firm whenever required as per direction of the Engineer-in-charge. The bends manufactured from parent tubes taking care that nominal bore is not reduced else it will be rejected and shall be 100% test checked by Assistant Engineer before burring.				
7	The tenderers should ascertain the availability of MSERW/API pipe as per schedule of quantity before quoting their rates.				
8	<b>Test certificate, inspection and specification.</b>				
a)	The tenderer shall have to produce manufacturers test certificate for all appertanances.				
b)	3rd party inspection shall be got done from one of the following				
i)	Rites,				
ii)	Detonorsake varitas				
iii)	Bureau Varitas				
iv)	SGS				
v)	M/S quality service & Solutiuon New Delhi-48				
c)	Payment only for the accepted and fully tested work shall be released.				
d)	The pipes shall be measured and weighed in the presence of authorized representative of the department at site/weight bridge. The documents showing the laden and unladen weights and lengths shall be submitted to Engineer-in-charge alongwith post delivery bill.				
9	Any damages caused to any public/private property during the course of execution of work shall be restored by the contractor and if, not done within a reasonable time then the same shall be restored by the department at contractors cost.				
10	Contractor shall arrange his own power connection whenever required.				

11	G.I. pipes will be issued to the contractor free of cost on proper indent at IPH Store Solan. Further carriage and watch and ward will be the responsibility of the contractor. Theft/ non return or shortage of G.I. pipe will be recovered on double of store issue rate.					
12	Nothing shall be paid for rejected material/work					
13	The contractor shall be responsible for watch and ward of material at site of work.					
14	Alignment of pipe line can be shifted/changed as per site condition for which nothing extra shall be paid beyond the approved rates.					
15	The plain ended pipes to be arranged by the contractor shall be made bevelled edges on the quoted rates. Nothing extra shall be paid to the contractor on this account.					
16	The butt welding shall be done in three layers as follow with the specification.					
i)	Rooter layer					
ii)	Filter coat					
iii)	Seal coat					
17	After the root coat the testing of pipes shall be done with DPT (die penetration test) to ascertain that there is no leakage.					
18	All ISI codes shall be latest with upto date amendments.					
19	The time schedule will be strictly adhered to and no extension will be granted under any circumstances.				Executive Engineer	
20	5% of the awarded amount will be withheld for want of testing which shall be released only after succesful testing of pipe line.				IPH Division Solan	

			<b>Job No-III</b>			
	<b>SCHEDULE OF QUANTITY</b>				Estimated Cost Rs:- 2,60,742/-	
	<b>Name of work:-</b> Repair & maintenance of DWSS to Solan Town from Giri River in Tehsil & Distt. Solan HP. (SH:- Operation and maintenance of raw water pumping machinery stage at Gaura) (for 6 month).				Earnest Money Rs:- 5,200/-	
					Time Period :- Six months.	
Sr. No.	Description	Qty.	Rate		Unit	Amount
			In fig.	In words		
1	Operation & maintenance (except for major repair of pumps, rewinding of motors and replacement of mechanical seals) of 3 Nos. 85 HP pump sets(submersible) installed raw water stage at Gaura for DWSS Solan Town including all repair time to time repair such as painting of equipments and replacement of M. oil at regular intervals for a period of 6 months. The cost of operation and maintenance shall include development of adequate staff i.e. pump operators, helper, beldar, chowkidar, supervisor, electrician and the visit of expert Electrical/ Mechanical Engineers of original manufactures/ contractors owned for periodical maintenance for atleast once in a month. The offer shall include cost of maintenance and repair of electrical & mechanical equipments (except for replacement of major equipments as a whole) various control valves, reflux valves, common header, suction strainer, water level indicator system, all electrical panels etc. The firm shall provide general consumable materials like florescent tubes, indicating lamps, cleaning materials, gasket of required size and pressure rating lubricating materials i.e. oil, grease and spare parts etc. The offer shall be subject to all terms and conditions given in DNIT.	6 month			Per month Job	
					<b>Total Rs.:-</b>	
	<b>TERMS AND CONDITIONS:-</b>					
1	The undersigned reserves the right to accept or reject any or all the tenders without assigning any reason thereof.					
2	The work will be got executed as per IPH specification.					
3	Security, GST and other statutory deductions will be made as applicable.					
4	Nothing will be paid for sub-standard work/material.					
					Executive Engineer	
					IPH Division Solan	

				<b>Job No-IV</b>			
<b>SCHEDULE OF QUANTITY</b>				Estimated Cost Rs:-		1,72,652/-	
<b>Name of work:-</b> R/M of LWSS Madhiyana GP Kot Beja in Tehsil Kasauli Distt. Solan. (SH:- C/O RCC Sector storage tank of 41,000 ltrs. Capacity).				Earnest Money Rs:-		3400/-	
				Time Period :-		Three months.	
Sr. No.	Description	Qty.	Rate		Unit	Amount	
			In fig.	In words			
1	Excavation in foundation and trenches in all type of soil such as pickwork jumper work blasting soft & hard rock and through conglomerate rock upto all leads & lifts stacking the excavated soil not more than 3mtrs clear from the edge of excavation and then returning the stacked soil in 15cm layers when required into plinths sides of foundations etc. consolidating each deposited layers by ramming and watering and then disposing of all surplus excavated earth in all leads and lifts & as per directed of the Engineer in-charge.	19.84			Cum		
2	Providing and laying cement concrete 1:4:8(1cement:4approved sand:8app.graded stone aggregate 40mm nominal size) and curing complete excluding cost of form work in foundation and plinth and as per the direction of Engineer-in-charge including entire carriage of material upto all leads and lifts.	4.41			Cum		
3	Providing and laying cement concrete 1:1.5:3(1cement:1.5approved sand:3approved graded stone aggregate 20mm nominal size)and curing complete excluding cost of form work and reinforcement for reinforced concrete work in:-						
(a)	Wall (any thickness but not less than 0.1m thickness) attached pillasters,buttresses plinth and string courses etc. from top to foundation level upto floor two level and as per the direction of Engineer-in-charge.including entire carriage of material upto all leads and lifts.	6.11			Cum		
(b)	Foundation and plinth including entire carriage of material upto all leads and lifts..	2.23			Cum		
4	Providing & laying cement concrete 1:2:4 (1 cement :2 sand :4 graded stone aggregate 20mm nominal size and curing omplete excluding cost of form work & reinforcement for RCC work in suspended floors, roofs landings shelve & their supports balconies girders bresumers and cantilevers upto floor two level i/c entire carriage of material upto all leads & lifts.	1.71			Cum		
5	Providing tor steel reinforcement for RCC work including bending,winding and placing in position complete upto floor two level.as per the direction of Engineer-in-chief including entire carriage of material upto all leads and lifts.	1088			Kg		
6	Providing form work of ordinary timber planking so as to give a rough finish Including centring,shuttering strutting and propping etc. with wooden battens and ballies height of propping and centring below supporting floor to ceiling not exceeding 4mtrs and removal of the same for insitu reinforced concrete and plain concrete work in Arches beyond 6 mtr span including entire carriage of material upto all leads and lifts as per direction of Engineer-in-charge.						
i)	Vertical surface such as wall of (any thickness) partition and the like including attached pillaster buttresses plinth and string courses and like and as per the direction of Engineer-in-charge .including entire carriage of material upto all leads and lifts.	81.46			Sqm		
ii)	Flat surfaces such as soffits suspended floors roofs, landings and the like floors etc upto 200mm in thickness.and as per the direction of Engineer-in-charge.	14.99			Sqm		
iii)	Edges of slabs & breaks in floors & walls under 20cm wide.	14.76			Rmt.		
7	Providing & fixing man hole cover with frame 500mm dia (medium duty) total weight of frame and cover should not be less than 116 Kg. (weight of frame 58 kg and weight of cover 58 kg).	1			Each		
8	Fixing of inlet pipe, outlet pipe of 32mm, scour pipe 50mm dia & P/F C.I. ventilating pipe 100mm dia. 1 mtr. high with C.I. cowl fixed at top.	L.S.			Job		
						<b>Total Rs.:-</b>	



				<b>Job No.V</b>		
<b>SCHEDULE OF QUANTITY</b>				Estimated Cost Rs:-	2,92,156/-	
<b>Name of work:-</b> Providing GWSS to PC habitation Nano (Naun) in G.P. Jabli Tehsil Kasauli. (SH:-C/O RCC storage tank, intake				Earnest Money Rs:-	5850/-	
Sr. No.	Description	Qty.	Rate		Unit	Amount
			In fig.	In words		
1	Excavation in foundation and trenches in all type of soil such as pick work jumper work Kankar, moorum, shingles including decomposed soft and hard rock etc. upto all heights stacking the excavated earth not more than 3mtrs clear from the edge of excavation and then returning the stacked soil in 15cm layers when required into plinths sides of foundations etc. consolidating each deposited layers by ramming and watering and then disposing of all surplus excavated earth in all leads and lifts & as per directed of the Engineer in-charge.	18.17			P/Cum	
2	Excavation in drains and channel etc in earth work in all kinds of soil such as kankar, moorum shingles conglomerate saturated soil and decomposed soft and hard rock hard rock including including dressing of sides and beds . disposing of excavated earth with all leads, lifts disposed earth to be levelled and neatly dressed and then returning the stacked soil into foundation and trenches etc. including ramming and consolidating the same wherever required with all leads, lifts and including jungle clearance and as per the direction of Engineer-in-charge.	1020.00			P/Cum	
3	Providing and laying cement concrete 1:4:8 (1cement :4approved sand :8app.graded stone aggregate 40mm nominal size) and curing complete excluding cost of form work in foundation and plinth.including entire carriage of material upto all leads and lifts.	2.16			P/Cum	
4	Providing and laying cement concrete 1:2:4 (1cement :2approved sand :4app.graded stone aggregate 20mm nominal size) and curing complete excluding cost of form work reinforcement for reinforced concrete work in					
a)	Wall of any thickness but not less than 10cm including attached pillaster, buttress plinth & string courses as from top of foundation to floor two level including entire carriage of material upto all leads and lifts.	2.96			P/Cum	
b)	Suspended floor,roofs, landing and shelves and their supports balconies,beam,girders bressumers and cantilevers upto floor two level.and as per the direction of Engineer-in-charge including entire carriage of material upto all leads and lifts.	2.05			P/Cum	
5	Providing Tor steel reinforcement for RCC work including bending binding and placing in position complete upto floor two level.including entire carriage of material upto all leads and lifts.	731.60			P/Kg	
6	Providing and laying Cement concrete flooring 1:2:4 (1cement :2sand :4graded stone aggregate 20mm nominal size) laid in one layer finished with floating coat of neat cement 40mm thick.including entire carriage of material upto all leads and lifts.	1.44			P/Sqm	
7	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 battens and ballies height of propping and centring below supporting floor to ceiling not exceeding 4mtrs and removal of the same for insitu reinforced concrete and plain concrete work in:-					
a)	Vertical surface such as wall of (any thickness) partition and the like including attached pillaster buttresses plinth and string courses and like.and as per the direction of Engineer-in-charge including entire carriage of material upto all leads and lifts.	52.54			P/Sqm	
b)	Flat surfaces such as soffits suspended floors roofs, landings and the like floors etc upto 200mm in thickness.and as per the direction of Engineer-in-charge including entire carriage of material upto all leads and lifts.	9.53			P/Sqm	
8	Providing and laying cement concrete 1:1.5:3 (1cement :1.5approved sand :3approved graded stone aggregate 20mm nominal size)and curing complete excluding cost of form work and reinforcement for reinforced concrete work in:-					

