

SCHEDULE OF QUANTITY

Name of work:- Providing and Installation of 4Nos India Mark-III (65 mm) and Mark-II (32mm) deep bore well hand pumps in village Padhian G.P. Bihari, Ward No. in G.P. Raily, GMS Dakhyora in G.P. Sathwin , Badloi in G.P. Kiara Bag in Tehsil Barsar Distt. Hamirpur (SH: Drilling of DTH/ ODEX/ percussion/Calyx/RC portable rigs 3 Nos ODEX, 1 No. DTH) under Deposit work)

		Estimated Cost Rs.		648938.00		
		E/Money Rs.		12979.00		
		Time:		3 Months		
Sr.No	Description of items.	Qty	Rates		Unit	Amount
			In fig	In words		
1	2	3	4	5	6	7
	Providing and installation of India Mark-III (65mm) / <u>India Mark-II</u> extra deep (32mm) deep well hand pumps as per IS: 13056-1991 along with up to date amendments and IS 9301 respectively comprising of following items:-					
1	Transportation of suitable truck/ tractor mounted DTH /ODEX attachment/ Percussion / Calyx / Rotary drilling tractor rigs along with necessary accessories etc. to the site of work and erection of rig including leveling etc. complete in all respects as per decision of Engineer-in-charge. 10% of the total No.of hand pumps shall be installed off road side upto a distance of 250 mtr	4			Job	
2	Drilling bores of 165 mm dia as per IS 2800:1979 (IS 2800 (Part-I) : 1991 Re-affirmed 2001) from ground level in the overburden as per direction of the Engineer-in-Charges with DTH rig for drilling through rocky formations consisting of sandstone, limestone, dolomites, conglomerate or any other type of sedimentary, metamorphic and igneous rocks including cost of consumable stores bits, water, POL etc, complete in all respects as detailed below.					
(i)	From 0 to 10 mtrs depth (1X10)	10			P.Rmt	
(ii)	Above 10 mtrs (1X70)	70			P.Rmt	
3	Drilling bores of 152 mm dia as per IS 2800: 1979 (IS 2800 (Part-I) off road & on road (both) : 1991 Re-affirmed 2001) using DTH with ODEX attachment rig required drilling in collapsible strata comprising of boulders, pebbles, gravels, sand, silt, clay, etc including cost of attachments consumable stores, bits, water, POL etc, complete with system of simultaneous lowering of 125 mm nominal bore, 5 mm thick MSERW fin cut casing pipe which will be welded together using 2.5 mm or 3.25 mm dia. advani/ oerlikon electrodes with one plain end and the other end chamfered to 50 degress including removing paint on the area to be welded, inclusive of the cost of bio-degradable and non toxic foam flush etc. complete in all respect as per directions of Engineer-in-charge. MSERW fin cut casing pipe, casing shoe & bit tube as per requirement of ODEX to be paid separately. (3x80=240)	240			P.Rmt	
4	Drilling bores of 115 mm dia as per IS 2800: 1979 (IS 2800 (Part-I) : 1991 Re-affirmed 2001) from bottom of overburden or collapsible strata to required depth in rocky formations complete in all respects as per the directions of the Engineer-in-Charge (If required as per site requirement).	0			P.Rmt	
5	Supplying and lowering of IS Marked 125mm PVC casing pipe medium class 5mm thick, screwed and socketed as per IS: 12818-1992 (Part-I)with upto date amendments including cost of all cutting, factory threading wherever required in a random length of six meters including transportation charges (DTH bores) as per the directions of the Engineer-in-charge.=1x80=80mtrs	80			P.Rmt	
6	Supplying and lowering of IS marked 125mm N.B.,5.00 mm thick fin-cut, MSERW casing pipes as per IS:4270-2001 and requirement of ODEX attachment from approved manufacturers, complete in all respects, as per directions of the Engineer-in-charge. =3x80=240 mtrs	240			P.Rmt	
7	Providing and fixing suitable casing shoe and bit tube as per requirement of ODEX attachment complete in all respects as per directions of the Engineer-in-charge.	3			Each	
8	Collection and preservation of soil samples in polythene bags complete in all respects as per directions of the Engineer-in-charge.	4			Each	

9	Development of bore well and yield testing with air compressor through 90° V-notch and disinfections etc. complete in all respects as per IS:2800-1979 and as per directions of the Engineer-in-charge.	3			Each
10	Supplying and lowering of IS marked riser pipes medium class screwed and socketed and welded as per IS-1239 (Part-I) 1990 with upto date amendment, electric resistance welded including cost of all cutting, threading and welding, wherever required in random lengths of 3 mtr inclusive of transportation charges to the site complete in all respects as per directions of Engineer-in-Charge. The seamless sockets shall be provided as per IS 13056-1991.				
(i)	65mm dia GMS pipe:1X40=40 mtrs	120			P.Rmt
(ii)	32mm dia GMS pipe :3X50=150mtrs	250			P.Rmt
11	(i) Supplying and erection of IS marked India Mark-III deepwell hand pumps (65mm) conforming to IS 13056-1991 consisting of pump, head assembly, cylinder assembly and seven connecting rods complete in all respects, for installation up to 40 m as per directions of Engineer-in-Charge.	3			Each
	(ii) Supplying and erection of IS marked India Mark-II extra deep well hand pumps (32mm) conforming to IS 9301 consisting of pump, head assembly,cylinder assembly and seven connecting rods complete in all respects, for installation down to depth from 40 m to 80 m as per directions of Engineer-in-Charge.	4			Each
12	Providing and fixing of extra connecting rods each of 3 mtr length in hand pumps as per site conditions complete in all respects as directions of Engineer-in-charge.	12			Each
13	Construction of plate form as per approved design/ drawing of department 1.80 mtr dia with pucca drain for waste water having size of drain 1000x300x100mm with cement concrete 1:2:4 (1cement: 2sand: 4 graded stone agg. (100mm thick in bed and 100mm thick in sides of drain / plate form and providing under layer for plate form with stone soling 150mm thick and providing RCC smooth finishing in cement mortar 1:3 (1cement3 Sand) including the cost of excavation and form work curing complete in all leads and lifts and to the entire satisfaction of the Engineer-in-charge.	4			Each
G.TOTAL					

A SPECIFICATIONS:-

- 1 The pump head assembly, cylinder assembly, connecting rods, riser pipes etc of the India mark-III (65mm) hand pump and India mark-II (32mm).Hand pump shall be as per IS:15500:2004 and
- 2 The free end of the casing pipe shall be minimum 300 mm above the ground level.
- 3 The verticality shall not vary in excess of the diameter of the well per 30 meter length.
- 4 A record of the strata encountered, depth of each Hand pump together with properly labelled samples of drilling, cutting shall be maintained as per IS:2800(Part-I) 1979 and its upto date
- 5 The water sample shall be arranged by the department to ensure that water from Hand Pump is fit for human consumption. If the water is unsuitable the Hand Pump shall not be provided and
- 6 Casing detail shall be bore specific keeping in view the rock formation/geological conditions.
- 7 The anti-corrosive treatment painting, as per IS:15500:2004 and its upto date ammendments shall be provided.
- 8 Fin cut MSERW casing pipes as per item No.6 shall be painted both on the inside and outside with an anticorrosive paint as per IS:4270-1971 and its upto date ammendments.
- 9 Cylinder as per schedule of quantity item No.11 (i) & (ii) shall be as per IS:8110-2000 and material specification as per AISI:type grade SS-304.

B TERMS AND CONDITIONS:-

- 1 Hand pump shall be purchased from the approved list of manufactures (**Annexure-I**) indicating the model. The hand pumps including pump head assembly, cylinder assembly and connecting
- 2 For item No 5,the PVC casing pipes shall be purchased to the satisfaction of Engineer-In-Charge and conforming to **IS:12818** (Part-I-1992).The pipes shall be inspected by the third party
- 3 Item No. 6 & 10 shall be executed only after the prior approval of competent authority.
- 4 For item NO. 6 & 12 the GMS pipes of medium class shall be purchased from approved manufactures short listed by the state departmental Screening Committee only as per **Annexure-II**. The
- 6 The accessories, pipes coupling etc. shall be ISI marked.
- 7 The UNICEF approved tool kit shall be used for installation of hand pumps. One such kit should be deployed with each rig.
- 8 The drilling shall commence with normal conventional set up and when problem area is encountered the conventional set up shall be removed and drilling through the problem area with
- 9 The height of the internal weld projection shall not exceeds 0.5 mm on the outside, the weld should not rise more than 2mm above the surface.
- 10 The Pump and accessories shall be guaranteed 12 months from the date of installation against bad workmanship/badmaterial.The life of rubber components shall, however be guaranteed for
- 11 The Hand Pump shall be tested as per requirements of IS:13056:1991 The discharge of water for 40 continuous strokes per minutes shall not be less than 15 litres.
- 12 The development of the well shall be continues for minimum period of one hour and till the bore does not yeild clear water to turbidity not more than 20% PPM.The decision of the Engineer in
- 13 For drilling of 165 mm dia bore holes drill rods will have to be 75 mm diameter. Drilling will not be permitted if rod of smaller size/dia are used.

- 14 The firm shall have to maintain hand pump i.e. to carry out repairs and maintenance of their installed hand pumps minimum for one year at its costs. Spare parts (if required) shall be supplied
- 15 The platform of hand pump shall be constructed by the firm as per the standard drawings and 10% amount shall be withheld which will be paid after proper completion and verification at site
- 16 Cement shall be issued by the department of respective I&PH Divisional store @ prevailing departmental rates. The prevailing department rate at present at divisional store is Rs.226.00 per
- 17 Hand pump is to be installed within one week time of completion of drilling and development of borewell/ receipt of water sample test report, whichever is later.
- 18 For delay in installation of hand pump within aforesaid period of one week time firm shall be levied penalty @ **Rs.1000/-** per day.
- 19 The firm should attach the certificate of Registration with HP Ground Water Authority otherwise the tender shall be rejected.
- 20 Firm rates should be quoted and no enhancement whatsoever on account of increase in cost of material /labour etc will be paid
- 21 The rates shall remain valid till 30th April 2018
- 22 Security, Sale tax, income tax and 1% labour cess charges will be deducted as applicable from the each running bill of the contractor.
- 23 The firm/ Contractor shall be registered with Central Ground Water Authority for drilling of bore wells/ hand pumps or registered with HP I&PH Deptt. for drilling of bore wells/ hand pumps in
- 24 The rates are inclusive of carriage of materials within all leads and lifts and no extra cost will be paid for this.
- 25 These tenders have been called to finalize the lowest rates for installation of hand pumps during the years 2017-18, however firms registered with HP I&PH Department for installation of Hand
- 26 The work shall be assigned on selection cum performance basis to each eligible participating firms on the basis of which maximum 50% of the total tendered quantity shall be allotted to L1 firm.
- 27 Minimum 10% of allotted hand pumps will have to be installed at off road sites by the firm as per Government instructions issued vide Special Secretary letter No.IPH-B(F)5-4/2012 dated 30th
- 28 Firm will have to make its own arrangement including right of way for transportation of equipment/ rig to the off road location and nothing extra shall be paid on this account.

Executive Engineer
I&PH Divn. Barsar

SCHEDULE OF QUANTITY

Name of work:- Providing and Installation of 2 Nos India Mark-III (65 mm) and Mark-II (32mm) deep bore well hand pumps in Kid Bud School G.P. Bijhari, village Ambota in G.P. Bijhari in Tehsil Barsar Distt. Hamirpur (SH: Drilling of ODEX/ percussion/Calyx/RC portable rigs 2 Nos ODEX) under Deposit work)

					Estimated Cost Rs.	346125.00
					E/Money Rs.	6923.00
					Time:	3 Months
Sr.No	Description of items.	Qty	Rates		Unit	Amount
			In fig	In words		
1	2	3	4	5	6	7
	Providing and installation of India Mark-III (65mm) / India Mark-II extra deep (32mm) deep well hand pumps as per IS: 13056-1991 along with up to date amendments and IS 9301 respectively comprising of following items:-					
1	Transportation of suitable truck/ tractor mounted DTH /ODEX attachment/ Percussion / Calyx / Rotary drilling tractor rigs along with necessary accessories etc. to the site of work and erection of rig including leveling etc. complete in all respects as per decision of Engineer-in-charge. 10% of the total No.of hand pumps shall be installed off road side upto a distance of 250 mtr	2			Job	
2	Drilling bores of 165 mm dia as per IS 2800:1979 (IS 2800 (Part-I) : 1991 Re-affirmed 2001) from ground level in the overburden as per direction of the Engineer-in-Charges with DTH rig for drilling through rocky formations consisting of sandstone, limestone, dolomites, conglomerate or any other type of sedimentary, metamorphic and igneous rocks including cost of consumable stores bits, water, POL etc, complete in all respects as detailed below.					
(i)	From 0 to 10 mtrs depth (0X10)	0			P.Rmt	
(ii)	Above 10 mtrs (0X70)	0			P.Rmt	
3	Drilling bores of 152 mm dia as per IS 2800: 1979 (IS 2800 (Part-I) off road & on road (both) : 1991 Re-affirmed 2001) using DTH with ODEX attachment rig required drilling in collapsible strata comprising of boulders, pebbles, gravels, sand, silt, clay, etc including cost of attachments consumable stores, bits, water, POL etc, complete with system of simultaneous lowering of 125 mm nominal bore, 5 mm thick MSERW fin cut casing pipe which will be welded together using 2.5 mm or 3.25 mm dia. advani/ oerlikon electrodes with one plain end and the other end chamfered to 50 degress including removing paint on the area to be welded, inclusive of the cost of bio-degradable and non toxic foam flush etc. complete in all respect as per directions of Engineer-in-charge. MSERW fin cut casing pipe, casing shoe & bit tube as per requirement of ODEX to be paid separately. (2x80=160)	160			P.Rmt	
4	Drilling bores of 115 mm dia as per IS 2800: 1979 (IS 2800 (Part-I) : 1991 Re-affirmed 2001) from bottom of overburden or collapsible strata to required depth in rocky formations complete in all respects as per the directions of the Engineer-in-Charge (If required as per site requirement).	0			P.Rmt	
5	Supplying and lowering of IS Marked 125mm PVC casing pipe medium class 5mm thick, screwed and socketed as per IS: 12818-1992 (Part-I)with upto date amendments including cost of all cutting, factory threading wherever required in a random length of six meters including transportation charges (DTH bores) as per the directions of the Engineer-in-charge.=0x80=0mtrs	0			P.Rmt	
6	Supplying and lowering of IS marked 125mm N.B.,5.00 mm thick fin-cut, MSERW casing pipes as per IS:4270-2001 and requirement of ODEX attachment from approved manufacturers, complete in all respects, as per directions of the Engineer-in-charge. =2x80=160 mtrs	160			P.Rmt	
7	Providing and fixing suitable casing shoe and bit tube as per requirement of ODEX attachment complete in all respects as per directions of the Engineer-in-charge.	2			Each	
8	Collection and preservation of soil samples in polythene bags complete in all respects as per directions of the Engineer-in-charge.	2			Each	
9	Development of bore well and yield testing with air compressor through 90° V-notch and disinfections etc. complete in all respects as per IS:2800-1979 and as per directions of the Engineer-in-charge.	2			Each	

10	Supplying and lowering of IS marked riser pipes medium class screwed and socketed and welded as per IS-1239 (Part-I) 1990 with upto date amendment, electric resistance welded including cost of all cutting, threading and welding, wherever required in random lengths of 3 mtr inclusive of transportation charges to the site complete in all respects as per directions of Engineer-in-Charge. The seamless sockets shall be provided as per IS 13056-1991.				
	(i) 65mm dia GMS pipe:1X40=40 mtrs	40			P.Rmt
	(ii) 32mm dia GMS pipe :2X50=100mtrs	100			P.Rmt
11	(i) Supplying and erection of IS marked India Mark-III deepwell hand pumps (65mm) conforming to IS 13056-1991 consisting of pump, head assembly, cylinder assembly and seven connecting rods complete in all respects, for installation up to 40 m as per directions of Engineer-in-Charge.	1			Each
	(ii) Supplying and erection of IS marked India Mark-II extra deep well hand pumps (32mm) conforming to IS 9301 consisting of pump, head assembly,cylinder assembly and seven connecting rods complete in all respects, for installation down to depth from 40 m to 80 m as per directions of Engineer-in-Charge.	1			Each
12	Providing and fixing of extra connecting rods each of 3 mtr length in hand pumps as per site conditions complete in all respects as directions of Engineer-in-charge.	6			Each
13	Construction of plate form as per approved design/ drawing of department 1.80 mtr dia with pucca drain for waste water having size of drain 1000x300x100mm with cement concrete 1:2:4 (1cement: 2sand: 4 graded stone agg. (100mm thick in bed and 100mm thick in sides of drain / plate form and providing under layer for plate form with stone soling 150mm thick and providing RCC smooth finishing in cement mortar 1:3 (1cement3 Sand) including the cost of excavation and form work curing complete in all leads and lifts and to the entire satisfaction of the Engineer-in-charge.	2			Each
G.TOTAL					

A SPECIFICATIONS:-

- 1 The pump head assembly, cylinder assembly, connecting rods, riser pipes etc of the India mark-III (65mm) hand pump and India mark-II (32mm).Hand pump shall be as per IS:15500:2004 and
- 2 The free end of the casing pipe shall be minimum 300 mm above the ground level.
- 3 The verticality shall not vary in excess of the diameter of the well per 30 meter length.
- 4 A record of the strata encountered, depth of each Hand pump together with properly labelled samples of drilling, cutting shall be maintained as per IS:2800(Part-I) 1979 and its upto date
- 5 The water sample shall be arranged by the department to ensure that water from Hand Pump is fit for human consumption. If the water is unsuitable the Hand Pump shall not be provided and
- 6 Casing detail shall be bore specific keeping in view the rock formation/geological conditions.
- 7 The anti-corrosive treatment painting, as per IS:15500:2004 and its upto date amendments shall be provided.
- 8 Fin cut MSERW casing pipes as per item No.6 shall be painted both on the inside and outside with an anticorrosive paint as per IS:4270-1971 and its upto date amendments.
- 9 Cylinder as per schedule of quantity item No.11 (i) & (ii) shall be as per IS:8110-2000 and material specification as per AISI:type grade SS-304.

B TERMS AND CONDITIONS:-

- 1 Hand pump shall be purchased from the approved list of manufactures (**Annexure-I**) indicating the model. The hand pumps including pump head assembly, cylinder assembly and connecting
- 2 For item No 5,the PVC casing pipes shall be purchased to the satisfaction of Engineer-In-Charge and conforming to **IS:12818** (Part-I-1992).The pipes shall be inspected by the third party
- 3 Item No. 6 & 10 shall be executed only after the prior approval of competent authority.
- 4 For item NO. 6 & 12 the GMS pipes of medium class shall be purchased from approved manufactures short listed by the state departmental Screening Committee only as per **Annexure-II**. The
- 6 The accessories, pipes coupling etc. shall be ISI marked.
- 7 The UNICEF approved tool kit shall be used for installation of hand pumps. One such kit should be deployed with each rig.
- 8 The drilling shall commence with normal conventional set up and when problem area is encountered the conventional set up shall be removed and drilling through the problem area with
- 9 The height of the internal weld projection shall not exceeds 0.5 mm on the outside, the weld should not rise more than 2mm above the surface.
- 10 The Pump and accessories shall be guaranteed 12 months from the date of installation against bad workmanship/bad material.The life of rubber components shall, however be guaranteed for
- 11 The Hand Pump shall be tested as per requirements of IS:13056:1991 The discharge of water for 40 continuous strokes per minutes shall not be less than 15 litres.
- 12 The development of the well shall be continues for minimum period of one hour and till the bore does not yeild clear water to turbidity not more than 20% PPM.The decision of the Engineer in
- 13 For drilling of 165 mm dia bore holes drill rods will have to be 75 mm diameter. Drilling will not be permitted if rod of smaller size/dia are used.
- 14 The firm shall have to maintain hand pump i.e. to carry out repairs and maintenance of their installed hand pumps minimum for one year at its costs. Spare parts (if required) shall be supplied
- 15 The platform of hand pump shall be constructed by the firm as per the standard drawings and 10% amount shall be withheld which will be paid after proper completion and verification at site

- 16 Cement shall be issued by the department of respective I&PH Divisional store @ prevailing departmental rates. The prevailing department rate at present at divisional store is Rs.226.00 per bag at Mattan Sidh, and Rs.270.00 per bag at Division Store Barsar.
- 17 Hand pump is to be installed within one week time of completion of drilling and development of borewell/ receipt of water sample test report, whichever is later.
- 18 For delay in installation of hand pump within aforesaid period of one week time firm shall be levied penalty @ **Rs.1000/-** per day.
- 19 The firm should attach the certificate of Registration with HP Ground Water Authority otherwise the tender shall be rejected.
- 20 Firm rates should be quoted and no enhancement whatsoever on account of increase in cost of material /labour etc will be paid
- 21 The rates shall remain valid till 30th April 2018
- 22 Security, Sale tax, income tax and 1% labour cess charges will be deducted as applicable from the each running bill of the contractor.
- 23 The firm/ Contractor shall be registered with Central Ground Water Authority for drilling of bore wells/ hand pumps or registered with HP I&PH Deptt. for drilling of bore wells/ hand pumps in
- 24 The rates are inclusive of carriage of materials within all leads and lifts and no extra cost will be paid for this.
- 25 These tenders have been called to finalize the lowest rates for installation of hand pumps during the years 2017-18, however firms registered with HP I&PH Department for installation of Hand
- 26 The work shall be assigned on selection cum performance basis to each eligible participating firms on the basis of which maximum 50% of the total tendered quantity shall be allotted to L1 firm.
- 27 Minimum 10% of allotted hand pumps will have to be installed at off road sites by the firm as per Government instructions issued vide Special Secretary letter No.IPH-B(F)5-4/2012 dated 30th
- 28 Firm will have to make its own arrangement including right of way for transportation of equipment/ rig to the off road location and nothing extra shall be paid on this account.

Executive Engineer
I&PH Divn. Barsar