

### Schedule of Quantity

**Name of work :- Providing flood protection for Thunag Bazar and adjoining area and Tirthan khad for protection** Estimated cost : ₹ 2,46,558.00  
**Balichowki Bazar and adjoining area in District Mandi (HP) (SH: - Providing and supplying of Survey Total Station with all accessories)** Earnest money : ₹ 4,940.00  
 Time:- One Months

Sr.No.	Description	Qty	Rate	Unit	Amount
1.00	Providing & supplying of Survey Total Station of make Leica, Electronic, Topcon, Sokkia etc. having specification as under :-	1	No.	Each	
	<b>Angular Measurement :-</b>				
	Angle measurement accuracy				2 second
	Method				Absolute, continuous & diametrical
	Display resolution / least count				0.1 second
	Compensation				Dual axis
	compensator setting accuracy				1.5 second
	<b>Distance measurement :-</b>				
	Distance measurement with reflector prism with single prism				5000 meter
	Accuracy in distance measurement with reflector prism				$\leq (2.0 \text{ mm} + 2 \text{ ppm})$
	Distance measurement without reflector prism				400 meter
	Accuracy in distance measurement without reflector prism upto 250 m				$\leq (4 \text{ mm} + 2 \text{ ppm})$
	Typical measurement time				1 second
	<b>Telescope :-</b>				
	Image Type				Erect
	Magnification (X)				30
	Resolving Power				3 Second
	Field of view @ 1000 meter				100 meter
	Minimum Focus Distance				1 meter
	Reticule				Illuminated, 10 brightness level
	<b>Plummet :-</b>				
	Plummet Type				Laser Based
	Optical Plummet Magnification				3X
	Laser Plummet Centering accuracy @ 1.5 mtr instrument height				1.5

<b>Data Storage / Interface / Keyboard and Display : -</b>						
	Storage Capacity (in terms of number of measurement entries)	50000				
	Data storage - internal memory	1 gigabyte				
	External storage type	USB Drive, SD Card, Micro SD card				
	Data downloading facility through interface	USB Cable, SD card, RS 232 Port, Bluetooth				
	alphanumeric keyboard and Touchscreen display on both side	No				
	display features	Capability of displaying point, lines or polygons, Day light readable, Direct and low sunlight readability, Display illumination				
<b>Software characteristics : -</b>						
	Operating System	Linux Based				
	Data formats support	ASCII, DXF, LandXML, FBK, RW5, RAW, SHP, CSV, GSI				
	Auto power-off option	Yes				
	Onboard Software functions	Survey & coding with Line works, Cross Section, Reference Plane, Sets of Angles Determine Coordinate Systems, Traverse, Cogo, Reference Line / Arc, Hidden Point offset, Remote Heights, Surface & volumes, DTM Stakeout Station Setup, Stakeout, compatibility for downloading and processing 2D and 3D data, Data compatibility to GIS, Automatic drafting from feature code, Traverse adjustment and report generation, Geo referencing of Raster maps, Vector maps, Direct printout option and CAD option				
	Onboard Application software for processing the field data and creating the field report	Yes				
<b>Physical Characteristic : -</b>						
	Ingress protection	IP 54				
	weight	5.4 Kilogram				
	Dimensions (mm x mm x mm)	440x370x275				
	Vertical tilt sensor monitors the tilt angle in X-axis	Yes				
	Vertical angle measuring provides three different options plus percentage of grade	Yes				
	Removable tribrach for multiple set-ups	Yes				

	Guide Light (EGL) working Range (average atmospheric conditions)	NA					
	Guide Light (ELG) - Positioning accuracy @ 100 m	1 meter					
	Capability to track the location of instrument (GPS)	No.					
	Additional features, if any	Reflector less Total Station ETS 362R6 (600 M Conditional) with laser centering, Bluetooth Data Transfer & OTG Pan Drive (Robust) Having 30X Magnification, 1" Least count and 2" Accuracy, Dual Axis Compensator, 32 BIT CPU, Absolute Encoding Systems & 40000 Points Internal memory points, 4 GB memory CARD External memory, COGO program, Distance measurement Range of 4 Km. With Single Prism, Alphanumeric key board (Dual display), Road Alignment Programmers along with following accessories : - Accessories with Total Station Battery Charger (01 No.), Batteries (02 Nos.), Operation Manual (01 No.), Tool Kit (01 No.), Carrying Case (01 No.), Plum bob (01 No.), Pan Drive (01 No.), Data downloading cable (01 No.), Data downloading software (01 No.), Prism with holder & target (01 No.) Prism pole (01 No.) and Heavy duty wooden / Aluminium tripod (01 No.)					
<b>Operating Conditions :-</b>							
	Minimum operating Temperature	-20 centidegree Celsius					
	Maximum Operating Temperature	50 centidegree Celsius					
	Non condensing Humidity (Rh) (%)	95 Percent					
<b>Power Supply :-</b>							
	Power source	Rechargeable batteries					
	Number of rechargeable batteries	1					
	Number of Extra rechargeable batteries	1					
	Chemistry of rechargeable battery	Li-ion					
	Capacity of rechargeable battery	3000					
	Voltage of rechargeable battery (DC)	7.4 volt					
	Battery Operating time (Backup time)	12 hour					
	Recharge time	3 hour					

	Suitable battery charger / Adapter working on 230 V AC +- 10%; 50 Hz +- 10%	Yes					
<b>Warranty :-</b>							
	Warranty	1 Year					
<b>Accessories :-</b>							
	Software for Transfer data to PC	Yes					
	Instruction Manual	Yes					
	Data Transfer cable	Yes					
	SD Card / USE Pendrive of Size	32 GB					
	Number to Tripod	1					
	Type of Tripod Available	Wooden, Plastic, Metallic					
	No. of Detachable Tribach	1					
	No. of Single prism with target plate	2					
	Number of Range pole	2					
	Lens cover Set	Yes					
	Shock absorbing carrying case with shoulder strap	Yes					
	Instrument height meter	Yes					
<b>Warranty :-</b>							
	Type approval and calibration from NABL / ILAC / Govt Laboratory	No					
	Type of Test Certificate number and date	NA					
	Name and address of Lab	NA					
							<b>Total :-</b>

**Terms and conditions :-**

- 1 Damage material shall no be accepted.
- 2 The rate should be inclusive with GST, carriage and FOR Thunag.
- 3 Labour cess & GST will be deduct from each bill of the contractor as applicable.
- 4 The Survey Total Station should be with one year warranty.
- 5 The supplier shall have to impart training to department officials at Thunag, Distt. Mandi (HP).

**Executive Engineer  
I&PH Division Thunag**

### Schedule of quantity

Estimated cost Rs.4,41,115

Earnest money Rs.8830

Time:- Three months.

Name of work:- Providing lift irrigation scheme Kuklah khad to Latogli in GP Saroa Tehsil Chachiot Distt Mandi HP. (SH:-C/O Breast/wall from RD 0 to 40 mtrs to protect the approach road).

Sr. No.	Description	Qty.		Rate	Unit	Amount
1	Excavation in foundation and trenches etc. in earth work in all kinds of soil such as pick work, jumper work, blasting soft orhard rock by chiselling soft/hard rock where blasting is prohibited in all leads and lifts including trimming/dressing of sides and beds stacking the excavated soil clear from the edge of excavation and then returning the excavated soil after completion of work in 15cm layers when required into plinths, sides of foundation etc. consolidating each deposited layers by ramming and watering and then disposing of all surplus excavated soil complete in all respect as per direction and to the entire satisfaction of the Engineer-in-charge.	32.40	cum		Per cum	
2	Providing form work with steel plates 3.15mm thick welded with angle iron 30x30x5mm so as to give a fair finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4mtrs. and removal of the same for in-situ reinforced concrete and plain concrete work including all leads and lifts.					
	(a) Vertical surface such as walls(any thickness) partitions and the like including attached pillasters buttresses, plinth and string courses and the like	158.66	sqm		per sqm	
3	Providing and laying cement concrete 1:5:10 (1 cement: 5 sand: 10 graded stone aggregate 40mm nominal size) and curing complete excluding the cost of form work in retaining wall/ breast wall complete in all respect and as per direction and to the entire satisfaction of the Engineer-in-charge.	107.28	cum		per cum	
4	Boulder filling behinde the breast wall complete in all leads and lifts	13.20	cum		per cum	
5	Providing and fixing PVC pipe 100 mm dia for weep holes in all respect and to the entire satisfaction of the Engineer-in-charge.	30.00	Rmt		per cum	
						<b>Total:-</b>

#### **Terms and conditions :-**

- 1 The work shall be executed as per HPPWD/IPH specification and to the entire satisfaction of the Engineer-in-charge.
- 2 Cement shall be issued by the department cement @ Rs. 289/- per bag from IPH Store Thunag
- 3 The contractor shall be fully responsible for watch and ward of the material at site of work.
- 4 Nothing shall be paid for rejected material/work.
- 5 GST and labour welfare cess shall be deducted from the bill of the contractor as applicable.
- 6 The rates should be inclusive with GST and carriage

Executive Engineer  
I&PH Division  
Thunag

### Schedule of Quantity

**Name of work:** - Providing LWSS Shikari Mata in Tehsil Thunag Distt. Mandi (HP) (SH: - C/O Toilet for pump house 2nd stage)

Estimated Cost : ₹ 1,29,162.00

Earnest money : ₹ 2,590.00

Time :- Three Months

Sr. No.	Description	Qty.	Rate	Unit	Amount
1.00	Excavation infoundation and trenches etc.(including pipes and pits upto all depths) in all kinds of soil such as pick work, jumper work, blasting and chiselling soft or hard rock where blasting is prohibited in all leads and lifts including trimming and dressing of sides, levelling of bed to correct grade stacking the excavated soil clear from the edge of excavation and returning the excavated soil after laying, jointing and testing of GI pipes in trenches in 15cm layers including consolidating each deposited layers by ramming and watering and then disposing of all surplus excavated soil as directed in all leads and lifts and soring strutting and trimming and dressing where ever required including restoration of un-metalled/metalled/paved surface to its original condition including cost of diversion for traffic night signals fixing caution board, crossing over trenches for access to houses and fencing etc. complete in all respect.	9.50 Cum		Per Cum	
2.00	Providing and laying cement concrete 1:3:6(1cement :3 sand: 6 graded crushed stone aggregate 40mm nominal size) and curing complete excluding the cost of form work in foundation and plinth in all leads and lifts.	0.65 Cum		Per Cum	
3.00	Randum rubble masonry polygonal rubble masonry (coursed or brought to courses) with hard stone of approved quality in foundation and plinth including leveling up with cement concrete 1:6:12 (1cement: 6 sand: 12 graded stone aggregate 20mm nominal size) in cement mortar 1:6 (1cement: 6 sand) in breast wall and retaining wall including all leads and lifts.	6.48 Cum		Per Cum	
4.00	Stone soling/boulder filling dry hand packed in under floor as per the direction of the Engineer-in-charge including carriage of materials within all leads and lifts.	0.54 Cum		Per Cum	
5.00	Providing and laying cement concrete 1:2:4(1Cement :2 sand:4 graded crushed stone aggregate 20mm nominal size) and curing complete excluding the cost of form work and reinforcement for reinforced concrete work in all leads and lifts in :-				
5.01	(a)Suspended floors, roofs, landing, shelves and their supports balconies, lintels, beams girders bresmers and cantilevers upto all floor two level .	0.99 Cum		Per Cum	
6.00	Brick work using common burnt clay building bricks in super structure upto floor two level in cement mortar 1:4 (1cement:4sand) in all leads and lifts. 2nd class bricks	2.69 Cum		Per Cum	
7.00	Providing 40x3mm flat iron hold fast 40cm long including fixing to frame with 10mm diameter bolts & nuts and wooden plugs and embedding in cement concrete block 30x10x15cm 1:3:6 ( 1cement: 3 sand :6 graded stone aggregate 20mm nominal size complete in all respect in all leads and lifts.	8.00 Nos.		Each	
8.00	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 battens and ballies, height of propping and centring below supporting floor to ceiling not exceeding 4 mtrs and removal of the same for in situ- reinforcement concrete and plain concrete work, in all leads & lifts in:-				

Sr. No.	Description	Qty.	Rate	Unit	Amount
8.01	Flat surfaces such as soffits of suspended floors, roofs, landings and the like. Floors upto 200mm in thickness including carriage of materials within all leads and lifts and other incidentals.	5.62 Sqm		Per Sqm	
8.02	Edges of slabs and breaks in floors and walls under 20cm wide	16.80 Rmt		Per Rmt	
8.03	Beams, cantilevers girders and lintels, side of soffits of beams, beam haunchings cantilevers, bressumers and lintels not exceeding 1.00 mtr. In depth in all height in floor.	1.26 Sqm		Per Sqm	
9.00	Providing Mild Steel/Tor steel reinforcement for reinforced cement concrete work including bending binding and placing in position complete including the cost of binding wire in all leads and lifts.	84.60 Kg		Per Kg	
10.00	Providing wood work in frames of doors, windows, clerestory, windows and other frames wrought framed and fixed in position, 2nd class deodar wood.	0.07 Cum		Per Cum	
11.00	6mm cement plaster to ceiling (a) in cement mortar 1:3 (1cement :3 sand) complete in all respect in all leads and lifts.	2.81 Sqm		Per sqm	
12.00	15mm cement plaster in single coat on rough side of brick/ concrete/ stone walls for interior plastering upto floor two levels including arrises internal rounded angles chamfers and / or rounded angles not exceeding 80mm in girth and finished even and smooth in cement mortar 1:4 (1cement : 4sand) in all leads and lifts.	11.52 Sqm		Per Sqm	
13.00	Providing Cement concrete flooring 1:2:4 (1cement:2sand: 4 graded crushed stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement in all leads and lifts. (a) 40mm thick	1.35 Sqm		Per Sqm	
14.00	Providing and fixing panelled glazed or panelled and glazed shutters for doors, windows and clerestory windows including black enamelled iron butt hinges with necessary screws etc complete as directed in all leads and lifts and to the entire satisfaction of Engineer-in-charge. 40mm thick 2nd class deodar wood.	2.00 Sqm		Per Sqm	
15.00	White washing with lime on undecorated wall surfaces two coats give an even shade including thoroughly brooming the surface to remove all dirt dust and other foreign matter in walls in all leads and lifts	14.33 Sqm		Per Sqm	
16.00	Applying priming coat on new wood and wood based surfaces after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matters, sand papering and knotting ready mixed paint brushing wood primer pink in all leads and lifts.	4.47 Sqm		Per Sqm	
17.00	Painting two coats (excluding priming coat) on new wood and wood based surfaces with ready mixed paint brushing to give an even shade including clearing of all dirt dust and other foreign matter, sand papering & stoping with ready mixed paint other than white.	4.47 Sqm		Per Sqm	
18.00	Providing and fixing anodized MS sliding door bolts with nuts and nuts screw etc. complete in all leads and lifts.				
18.01	250x16mm	1.00 No.		Each	
19.00	Providing and fixing anodized MS tower bolts (barrel type) with screws etc. complete in all leads and lifts.				

Sr. No.	Description	Qty.	Rate	Unit	Amount
19.01	200x10mm	6.00 Nos.		Each	
20.00	Providing and fixing anodized MS handles with necessary screws etc. complete in all leads and lifts.				
20.01	125mm	4.00 Nos.		Each	
21.00	Providing plinth protection 50mm thick in cement concrete 1:3:6 (1cement : 3 sand :6 graded stone aggregate 20mm nominal size complete.	11.61 Sqm		Per Sqm	
22.00	Providing and fixing vitreous china down water closed (European type W.C. pan) with integral "P" or "S" trap including the trap with soil pipe in cement mortar 1:1 ( seat and cover to be measured and paid for separately) as per direction of the Engineer-in-charge.	1.00 No.		Each	
23.00	Providing and fixing C.P. brass flush pipe/spreader for urinal with fitting such as union clamp etc. (all in C.P. brass) including cutting holes and making good the same 32mm (thirty two millimeter) dia, nominal bore as per direction of the Engineer-in-charge.	1.00 No.		Each	
24.00	Providing and fixing 10/12.5/15 ltr. automatic flushing cistern with a pair of C.I. or M.S. brackets complete with fittings including C.I. syphonic apparatus, mosquito proof lid, C.P. brass unions and coupling for connections with inlet, outlet and overflow pipe including cutting holes and making good the same (overflow pipe to be measured and paid for separately) vitreous China 5 ltrs. capacity.	1.00 No.		Each	
25.00	Providing & fixing vitreous china wash basin with single hole for pillar tap with CI or MS bracket painted white including cutting hole including good the same excluding fitting Cera sanitary work (cornet) white 550x400 white in all leads and lifts as per the direction of Engineer-in-Charge.	1.00 No.		Each	
26.00	Providing and fixing 32mm (thirty two millimeter) dia, floor trap for wash basin and sink as per direction of the Engineer-in-charge.	1.00 No.		Each	
27.00	Providing and fixing 600mmx450mm beveled edge mirror of superior glass mounted on 6mm thick A.C. sheet or ply wood sheet and fixed to wooden plugs with C.P. brass screws and washers in all leads and lifts as per the direction of Engineer-in-Charge.	1.00 No.		Each	
28.00	Providing and fixing PVC pipe 100mm dia complete in all respect.	15.00 Rmt		Per Rmt	
29.00	Providing and Fixing GI unions complete in all respect.	4.00 Nos.		Each	
30.00	Providing and Fixing GI elbow complete in all respect.	8.00 Nos.		Each	
31.00	Providing and Fixing GI Tee complete in all respect.	5.00 Nos.		Each	
32.00	Providing and Fixing GI Sockets complete in all respect.	6.00 Nos.		Each	
33.00	Providing and Fixing GI Nipples complete in all respect.	4.00 Nos.		Each	
34.00	Providing and fixing to wall ceiling and floor galvanized mild steel tube (Medium grade) tube fittings and clamps including making good the wall ceiling and floors in all leads and lifts in:-				



<b>Sr. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Rate</b>	<b>Unit</b>	<b>Amount</b>
34.01	15mm (fifteen millimeter) nominal bore.	30.00 Rmt		Per Rmt	
35.00	Providing and fixing PVC water storage tank 500 ltr. capacity in all leads and lifts as per the direction of Engineer-in-Charge.	1.00 No.		Each	
				<b>Total</b>	

***Terms and conditions: -***

- 1 The work shall be executed as per HPPWD/IPH specifications and to the entire satisfaction of the Engineer-in-charge.
- 2 The cement, steel and GI pipes shall be issued by the department from IPH Store Thunag i.e. Cement @ Rs. 289/-per bag, steel @ Rs. 5700/-per qtl. and GI pipes free of cost.
- 3 GI fitting shall be provided by the contractor at their own cost.
- 4 The contractor shall be fully responsible for watch and ward of the material at site of work.
- 5 Nothing shall be paid for rejected material.
- 6 Crushed stone aggregate shall be used at site of work.
- 7 GST and labour welfare cess shall be deducted from the bill of the contractor as applicable.
- 8 The contractor shall be responsible for any accident caused during the construction of the work and the loss if any will be born by the contractor.
- 9 The rates should be inclusive with GST and carriage of material to the site of work.

***Executive Engineer  
I&PH Division Thunag***

**Schedule of quantity**

**Estimated cost Rs.3,40,614/-**

**Earnest money Rs.6820/-**

**Time: Three months**

**Name of work:-** Providing LWSS Kaligarh Bara G/O villages Tehsil Chachiot Distt. Mandi (HP)(SH:- C/O 20 Nos Anchor Block for rising main 1st and 2nd stage)

Sr. No.	Description	Qty.	Rate	Unit	Amount
1	Excavation in foundation trenches etc. in earth all kinds of soil such as pick work jumper work blasting soft or hard rock or by chiselling soft or hard rock where blasting is prohibited in all leads and lifts including trimming/ chiselling of sides and bed stacking the excavated soil clear from the edge of excavation and returning the excavated soil after completion of work in 15cm layers when required into plinth sides of foundation etc. consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated soil complete in all respect as per the direction and to the entire satisfaction of the Engineer-in-charge.	13.00	Cum	Per Cum	
2	Providing and laying cement concrete 1:4:8 (1cement :4 sand: 8graded crushed stone aggregate 40mm nominal size) and curing complete excluding the cost of form work in foundation and plinth in all leads and lifts.	5.80	cum	per cum	
3	Providing form work with steel plates 3.15mm thick welded with angles iron in frame 30x30x5mm so as to give a fair finish including centering shuttering strutting and propping etc. with wooden battens and ballies height of propping and centering below supporting floor to ceiling not exceeding 4 mtrs and removal of the same for in-situ reinforced concrete & plain concrete work in all leads and lifts in:-				
	(a) Vertical surface such as walls(any thickness) partitions and the like including attached pillars buttresses, plinth and string courses and the like	165.00	sqm	per sqm	
4	Providing and laying cement concrete 1:2:4 (1cement :2 sand: 4graded crushed stone aggregate 40mm nominal size) and curing complete excluding the cost of form work and reinforcement in stairs and walls in all leads and lifts.				
	(a) Foundation ,footings bases of columns and the like mass concrete including all leads and lifts	34.40	cum	per cum	
5	Providing and laying for steel reinforcement for RCC work including bending, binding and placing in position complete upto floor two level in all leads and lifts.	488.40	kg	per kg	
3	Random rubble masonry /polygonal masonry uncoursed/brought to coursed with hard stone of approved quality in foundation and plinth including levelling with cement concrete 1:6:12 (1 cement : 6 sand: 12 graded stone agg. 20mm nominal size) at plinth in cement mortar 1:6(1 cement :6 sand) in all leads and lifts.	25.20	cum	per cum	
2	Wire crate made of GI wire with boulder with square cut faces against the wire complete boulder filling to be measured and paid separately GI wire 5mm thck corresponding SWG-6 15cmx15cm mesh.	75.00	sqm	per sqm	
3	Wire crate made of GI wire filled with boulders with square cut faces against the wire complete the WT of boulder should be less than 18 kg.	15.63	cum	per cum	
<b>Terms and conditions:-</b>				<b>Total</b>	

- 1 The work shall be executed as per HP PWD/IPH specifications and to the entire satisfaction of the Engineer-in-charge.
- 2 The cement, steel and GI pipes shall be issued by the department from IPH Store Thunag i.e. Cement @ Rs. 289/-per bag, steel @ Rs. 5700/-per qtl.
- 3 The contractor shall be fully responsible for watch and ward of the material at site of work.
- 4 Nothing shall be paid for rejected material.
- 5 G.S.T. and labour welfare cess shall be deducted from the bill of the contractor as applicable
- 6 Crushed stone aggregate shall be used in all concrete work.
- 7 The contractor shall be responsible for any accident caused during the construction of the work and the loss if any will be born by the contractor
- 8 The rates should be inclusive with GST and carriage

Executive Engineer  
I&PH Division  
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