

NATIONAL RURAL HEALTH MISSION

GOVT.OF HIMACHAL PRAESH

TENDER

FOR

***Construction of 100 Bedded Mother & Child
Hospital at Zonal Hospital, Mandi district,
Mandi, H.P.***

VOLUME – V

**Bill of Quantities
(B.O.Q.)**

JULY' 2014



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Tender No. HSCC/NRHM/M&C/MANDI/HP/2014

BILL OF QUANTITIES

OF

CIVIL WORKS

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
1.00	EARTH WORK					
1.01	Earth work in excavation by mechanical means (Hydraulic excavator) /manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed					
a)	All kinds of soil	1431.00	Cum			
b)	Ordinary rock	1073.00	Cum			
c)	Hard rock (blasting prohibited)	1073.00	Cum			
1.02	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
a)	All kinds of soil.	297.00	Cum			
1.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.					
		1321.00	Cum			
1.04	Extra for every additional lift of 1.5 m or part there of in excavation/banking excavated or stacked materials.					
a)	All kinds of soil.					
i)	1.5 to 3.0m	337.00	Cum			
ii)	3.0 to 4.5m	172.00	Cum			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
1.05	Supplying and filling in plinth with Jamuna sand under floors including, watering, ramming consolidating and dressing complete.	115.00	Cum			
Total of sub-head						

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
2.00	CONCRETE WORK					
2.01	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	2.00	Cum			
b)	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	116.00	Cum			
2.02	Providing and laying in position ready mixed plain cement concrete, using fly ash and cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, excluding the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.					
	(Note :- Excess/less cement used than specified as per design mix is payable/recoverable separately). Fly ash conforming to grade 1 of IS: 3812 (Part-1) only be used as part replacement of OPC as per IS:456. Uniform blending with cement to be ensured in accordance with clause 5.2 and 5.2.1 of IS:456-2000 in the items of BMC and RMC.					
a)	All works upto plinth level					
i)	M-10 grade plain cement concrete (cement content considered @ 220 kg/cum)	211.00	Cum			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
2.03	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor, etc., up to floor five level, excluding the cost of centering, shuttering and finishing :					
a)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	26.00	Cum			
2.04	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification	987.00	per 50 kg cement			
Total of sub-head						

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
3.00	REINFORCED CEMENT CONCRETE					
3.01	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.					
	(Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).					
a)	All works upto plinth level.	1443.00	Cum			
b)	All works above plinth level upto floor V level.	1530.00	Cum			
3.02	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	NOTE- (1) Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.					
	(2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS : 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC.					
a)	All works up to Plinth level.	161.00	Cum			
b)	All works above plinth & up to floor V level.	171.00	Cum			
	Note :- The above item shall be used judiciously where specified quality of Fly Ash is available for mixing in concrete. Also, the guidelines issued by CDO, CPWD, vide circular no. CDO/SE(RR)/Fly Ash (Main)/102 dated 9th April 2009 shall be followed in such cases.					
3.03	Extra for providing richer mixes at all floor levels.					
	Note:- Excess/less cement over the specified cement content used is payable /recoverable separately.					
i)	Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum)	50.00	Cum			
ii)	Providing M-35 grade concrete instead of M-25 grade BMC/RMC. (Note : Cement content considered in M-35 is @ 350 kg/cum)	50.00	Cum			
3.04	Centering and shuttering including strutting, propping etc. and removal of form for :					
a)	Foundations, footings, bases of columns, etc. for mass concrete	130.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	430.00	Sqm			
c)	Suspended floors, roofs, landings, balconies and access platform	6520.00	Sqm			
d)	Shelves (Cast in situ)	25.00	Sqm			
e)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	5217.00	Sqm			
f)	Columns, Pillars, Piers, Abutments, Posts and Struts	3489.00	Sqm			
g)	Stairs, (excluding landings) except spiral-staircases	363.00	Sqm			
h)	Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	136.00	Sqm			
i)	Extra for shuttering in circular work for					
i)	Beams	179.00	Sqm			
3.05	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).					
a)	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	4446.00	Sqm			
3.06	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete at all levels.					
a)	Thermo-Mechanically Treated bars.	1003524.00	Kg			
Total of sub-head						

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
4.00	Walls and Partitions					
4.01	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
a)	Cement mortar 1:6 (1 cement : 6 coarse sand)	54.00	Cum			
4.02	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in:					
a)	cement mortar 1:4 (1 cement: 4 coarse sand)	20.00	Sqm			
4.03	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	3053.00	Sqm			
4.04	Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in :					
a)	Cement mortar 1:6 (1 cement : 6 Coarse sand)	989.00	Cum			
4.05	Half brick masonry with non modular fly ash lime Gypsum bricks (FALG bricks) of class designation 10, conforming to IS : 12894, in super structure above plinth and upto floor V level.					
a)	Cement mortar 1 : 4 (1 cement : 4 coarse sand)	3053.00	Sqm			
4.06	Brick edging 7cm wide 11.4 cm deep to plinth protection with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 including grouting with cement mortar 1:4 (1 cement : 4 fine sand).	213.00	Metre			

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1	2	3	4	5	6	7
4.07	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with :	331.00	Cum			
Total of sub-head						

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.00	DOORS & WINDOWS					
5.01	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :					
a)	For fixed portion					
i)	Polyester Powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	4356.00	Kg			
5.02	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)					
a)	Polyester Powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	2427.00	Kg			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.03	Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators a with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS : 1285 fixed with dash fastener of required dia and size(Dash fastener to be paid for separately).	774.00	kg			
5.04	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.					
a)	With brass cover plate minimum 1.25 mm thickness	32.00	Each			
5.05	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.					
a)	Upto 5mm depth and 5 mm width	1567.00	Metre			
5.06	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side having 12 mm air gap including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	362.00	Sqm			

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5.07	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	1297.00	kg			
5.08	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :					
a)	30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	251.00	Sqm			
5.09	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	251.00	Sqm			
5.10	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured) :					
a)	Rectangular or square.	123.00	Sqm			
5.11	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	19.00	Sqm			

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1	2	3	4	5	6	7
5.12	Providing glass panes, with wooden fillets wherever necessary.					
a)	Float glass panes of thickness 4 mm	6.00	Sqm			
5.13	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.					
a)	1.0 mm thick.	490.00	Sqm			
5.14	Providing and installation of fully insulated wooden fire rated shutter of 120min. fire rating conforming to BS: 476 part 22 and IS:3614 Part II as per the prototype tested and certified by CBRI Roorkee, of minimum 50 mm thickness, comprising of 75mm x 44mm hardwood internal timber frame work, with infill of 96 kg/m ³ , ceramic fiber blankets, coated with intumescent coating on both sides for insulation. The coated insulation shall be sandwiched between 12mm thick, Non combustible Boards (Calcium Silicate of approved quality and manufacture) on both sides (edge to edge on internal Hardwood frame) and clad with 3mm thick commercial ply of approved quality & 1mm thick laminate of approved brand and manufacture on both sides, with 50mm x 14mm 2nd class teak wood lipping all round the shutter.					

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1	2	3	4	5	6	7
a)	<p>The shutter is suitable for mounted on the door frame, as per the item given below. Both frame and shutter shall be fitted with fire & smoke intumescent seal of Viper or equivalent make of size 20 x 4mm on all the three sides except bottom. The pasting of the ply/veneer/laminate should be done using automatic machine and should be free from any nails or perforations. The board shall be Resistant to vermin, mould growth, minor impact, abrasion and short term water attack. The shutter shall be fixed with the frame with the help of SS 304 grade ball bearing hinges of size 100x76x2mm with necessary screws and making cut out for vision panel. Provisions/reinforcement for fixing all fixtures shall be built in on the door prior to the supply. The rate shall include all the materials, labour and T&P for the works described in the item above.</p> <p>Single/Double Shutter</p>	41.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.15	Providing and fixing door frames as per BS: 476 part 22, IS:3614 Part II as per the prototype certified by CBRI Roorkee made out of 2nd class Teak Wood (Ivory Coast)frame of section 120 X 70 mm for fire resistant doors of 120 minutes fire rating, with heat activated intumescent fire seal strips of size 20 x 4 mm(for smoke sealing) provided in grooves on all three sides of the frame with one coat of approved brand of fire retardant primer including two coats of fire retardant paint FR 881or equivalent un thinned on cleared hard wood surface of door frames (@3.5 sq.m. per litre per coat) including preperation of base surface as per recommendations of manufacturer to make the surface fire retardant, including fixing the frame with 8 nos. 100 mm long, 10 mm dia metal dash fastners complete as per directions of the Engineer in charge NOTE:- cost of fire seal strips, dash fastners are included in the item. Nothing extra shall be paid if size of any component of material exceeds the limit mentioned in the item.	74.00	Metre			
5.16	Providing and fixing UL listed door Co-ordinator of approved Make for coordination of double leaf doors, of approved brand and manufacture with minimum one year warrantee.	13.00	Each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.17	Supply & fixing of Fire-stop Fire sealing System Board Type(barriers) of approved make for sealing of floors, wall openings under control panels for the purpose of compartmentation.The FPSS consists of 100mm thick mineral wool insulation pad of approved make having density of 48 kg/m ³ coated with FR in tumescent compound encased with 10 mm thick calcium silicate board of approved make, sealed with intumescent Fire Seal Putty approved Make. The system is coated and fixed with openings with the help of slotted angles of size 40x40mm of 16 SWG thickness, nutbolts of size 1.5"x8mm Dia. The FPSS system all provide 2 hours fire rating as per IS 12458-1989.After insulation of this system it will be painted with Fire Retardant Paint of approved Make.	4.00	sqm			
5.18	Providing & fixing approved make 11.0mm thick clear toughened glass tested upto 2 hours fire rating and complies with BS 476: Part 22 as vision panel including cost of fire rated ceramic tape and moulding/beading all complete.	6.00	Sqm			
5.19	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	162.00	Each			
5.20	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :					
a)	250x16 mm	51.00	Each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.21	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
a)	250x10 mm	303.00	Each			
b)	150x10 mm	268.00	Each			
5.22	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
a)	125 mm	274.00	Each			
5.23	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.					
a)	Twin rubber stopper	93.00	Each			
5.24	Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles of approved quality with necessary screws etc. complete.	66.00	Each			
5.25	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.					
a)	255 X 19 mm	449.00	Each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.26	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.					
a)	Polyester powder coated minimum thickness 50 micron aluminium tubular handle bar	9.00	Each			
5.27	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge					
	Polyester Powder coated minimum thickness 50 micron aluminium	55.00	Each			
5.28	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	16.00	Each			
5.29	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.					
a)	Polyester powder coated minimum thickness 50 micron aluminium	225.00	Each			
5.30	Providing and fixing Panic Bar of approved brand and manufacture for double leaf panic exit devices.					
a)	Double Leaf Panic Bar Set	13.00	Each			
5.31	Providing and fixing of fire rated heavy duty door closer of approved quality for fire door in accordance with BS:476 Part 22 for fire rating) and BS EN 1154 with minimum one year warranty.	13.00	Each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
5.32	Providing and fixing fire rated mortice dead lock tested in accordance with European Standard EN12209 / DIN18251 and 80mm Long cylinder to EN1303 of approved brand and manufacturer having min. 1 year manufacturers warranty.	11.00	Each			
5.33	Providing and fixing 300 mm long stainless steel grade 304 D type back to back pull handle of approved make with necessary bolts with alen key arrangement etc complete.	21.00	Each			
5.34	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	10.00	Sqm			
5.35	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive	37.00	Sqm			
5.36	Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix, suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge (Dash fastener to be paid for separately).	27.00	Meter			

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1	2	3	4	5	6	7
5.37	Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II), tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, lock rail, top rail 100 mm wide, bottom rail 200 mm wide, made out of 16 SWG G.I.sheet (zinc coating not less than 120 gm/m ²) duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in-charge (panneling to be paid for separately).	9.00	Sqm			
Total of sub-head						

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
6.00	STEEL WORK					
6.01	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming cost with approved steel primer all complete.					
a)	Fixed to steel windows by welding.	53.00	kg			
6.02	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
a)	In gratings, frames, guard bar, ladder, railings, brackets, gates, signage and similar works.	2685.00	Kg			
6.03	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.					
a)	M.S. tube	30.00	kg			
6.04	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	5592.00	Kg			

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					Bill of Quantities (Civil)	
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	Total of sub-head					

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
7.00	FLOORING					
7.01	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.					
a)	40mm thick with 20mm nominal size stone aggregate.	88.00	Sqm			
7.02	Cement plaster skirting up to 30 cm height, with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement.					
a)	18 mm thick	9.00	Sqm			
7.03	Marble stone flooring with 18 mm thick marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with :					
a)	Raj Nagar plain	422.00	Sqm			
b)	Udaipur green marble/Jaisalmer	421.00	Sqm			
7.04	Providing and fixing machine cut, mirror / eggshell polished , Marble stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge.					
a)	Flamed/polished finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent	73.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
7.05	Providing and laying flamed/ polished finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :					
a)	Flamed/polished finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent	30.00	Sqm			
7.06	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :					
a)	25 mm thick.	1582.00	Sqm			
7.07	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	318.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
7.08	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	206.00	Sqm			
7.09	Providing and laying rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete.	53.00	Sqm			
7.10	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete.					
a)	Size of Tile 600x600 mm	1653.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
7.11	Providing and laying antiskid vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.					
a)	Size of Tile 600x600 mm	204.00	Sqm			
7.12	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer) with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make in all colours & shade in skirting, riser of steps,& Dado over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a)	Size of Tile 600x600 mm	880.00	Sqm			
7.13	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels					
a)	Granite of any colour and shade					
i	Area of slab upto 0.50 sqm	5.00	Sqm			
ii	Area of slab over 0.50 sqm.	147.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
7.14	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.					
a)	Granite work	237.00	Metre			
7.15	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	237.00	Metre			
7.16	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/Granite/stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	13.00	Each			
7.17	Providing and laying C.C. pavement of mix M25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	255.00	Cum			
7.18	2mm thick self smoothing epoxy flooring					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
a)	Preparing the concrete floor surface using captive shot blasting / grinding. Cut open all construction joints to fill with epoxy putty of approved quality. Same treatment will carried out to treat shrinkage joints. Providing and applying a coat of suitable primer of approved quality and allowed to air cure for 24 Hours before overlaying. Providing and laying self smoothing epoxy flooring in 2 mm thickness as topping and finishing as per manufacture specification/ product data sheet. The topping shall achieve a minimum compressive strength of 40 N/mm2 and a flexural strength of 25 N/mm2 at 7 days when tested to BS6319. At 20 degree centigrade, it shall be capable of accepting foot traffic at 24 hours and vehicular traffic at 48 hours.	95.00	sqm			
Total of sub-head						

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
8.00	ROOFING					
8.01	Providing & fixing false ceiling at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I chanel 45 x15 x 0.90mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/ partitions with the help of Rawl plugs at 450mm centre, with 25mm long dry wall screws @ 230mm interval, including fixing of Calcium Silicate Board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes,finishing with jointing					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	compounds in three layers covering up to 150mm on both sides of joints and two coats of primer suitable for boards, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specificaton and direction of the Engineer in charge but excluding the cost of painting with:					
a)	8 mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.	204.00	sqm			
8.02	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :					
a)	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- Part I	50.00	sqm			
8.03	Providing and fixing 10mm thick clear multi wall solar control polycarbonate sheets of approved quality and shade in desired shape in roofing including the cost of EPDM gaskets , sealing tape , aluminium profile and all necessary accessories complete as per architectural drawings and as directed by Engineer incharge. The item includes designing the complete system and supplying & getting approved from client and / or reputed engineering institue like IIT etc. The detailed shop drawings including supplying structural design calculations based on relevent codal provisions and carrying out water penetration test as per standards followed in India.					
a)	for Plain Structure	119.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	The whole work is to be done through reputed and approved vendor having experience in polycarbonate work in Commercial/ Govt/ Corporate buildings as per architectural elevation drawings including filling of joints with silicon sealent and also with masonry/ RCC work, at all heights including double heights, straight or curved etc. complete in all respect. (Surface Area shall be measured for the payment) (M.S. Framing to be paid for seprately)					
8.04	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :					
	Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.					
	IIInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.					
	IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.					
	IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).	204.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
8.05	<p>Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.</p>					
	<p>d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :</p>					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
a)	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	1193.00	Sqm			
Total of sub-head						

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
9.00	FINISHING					
9.01	12 mm cement plaster of mix :					
a)	1:6 (1 cement: 6 fine sand)	4793.00	Sqm			
9.02	15 mm cement plaster on the rough side of single or half brick wall of mix :					
a)	1:4 (1 cement: 4 fine sand)	717.00	Sqm			
b)	1:6 (1 cement : 6 fine sand)	7189.00	Sqm			
9.03	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand).	4884.00	Sqm			
9.04	6 mm cement plaster of mix :					
a)	1:3 (1 cement : 3 fine sand)	7353.00	Sqm			
9.05	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	3834.00	Sqm			
9.06	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	19087.00	Sqm			
9.07	White washing with lime to give an even shade :					
a)	New work (three or more coats)	458.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
9.08	Distemping with 1st quality acrylic distemper, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.					
a)	Two coats	6927.00	Sqm			
9.09	Finishing walls with Acrylic Smooth exterior paint of required shade :					
a)	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)	221.00	Sqm			
9.10	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.					
a)	With ready mixed red oxide zinc chromatic on steel / iron works having VOC content less than 250 grams/ litre	298.00	Sqm			
b)	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	16470.00	Sqm			
9.11	Finishing walls with textured exterior paint of required shade:					
a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including base coat of water proofing cement paint applied @ 2.20kg/1 0 sqm.	4769.00	Sqm			
9.12	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.					
a)	Two Coats	9544.00	Sqm			

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
9.13	Painting with synthetic enamel paint, having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.					
a)	Two Coats	298.00	Sqm			
9.14	Providing and fixing 150 mm wide, 22 gauge and 18mm square chicken wiremesh at junctions of concrete and brick work and other locations at all heights placed symmetrically on the joint, including cutting to required size, fixing in position with cement and nails etc complete in all respects as per specifications/drawings and to the entire satisfaction of the Engineer in Charge.	928.00	Sqm			
9.15	Polyurethane wall Coating					
i)	Preparing the wall using sand paper cleaning etc.					
ii)	Providing and applying cementitious faring coat of approved quality at average thickness of 1mm over prepared wall surfaces to achieve smooth surface to take wall coating.					
iii)	Providing and applying water dispersed polyurethane wall coating in 2 or more coats and finishing as per manufacturer specifications. The total dry film thickness shall not be less than 90 microns in two coats and shall be resistant to a range of industrial chemicals. The cured film shall be hygienic and provide hard, flexible and matt surface.	2812.00	Sqm			
Total of sub-head						

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
10.00	MISCELLANEOUS					
10.01	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.	242.00	Sqm			
10.02	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).	280.00	Kg			
10.03	Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	<p>a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)-cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:</p>					
	<p>b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimentional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.</p>					
	<p>c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment , including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.</p>					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.					
	e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, dully approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge.					

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1	2	3	4	5	6	7
	<p>Note:- 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub- head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves) on the external face shall be measured in sqm. up to two decimal places.</p>					
	<p>Note:-2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accredited by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately. The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the NBL Certified laboratories</p>					
	1. Performance Laboratory Test for Air Leakage Test (-50pa to -300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr”					
	2. Static Water Penetration Test. (50pa to 1500pa) as per ASTM E-331-09 testing method for a range up to 2000 ml.”					
	3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01-05 testing method for a range upto 2000 ml”					
	4. Structural Performance Deflection and deformation by static air pressure test (1.5 times desing wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm”					

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test" Tests to be conducted on site					
	6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000ml"	44.00	Sqm			
10.04	Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthned clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.26.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone Sealant) provided and fixed in position, shall be measured in sqm.					
	(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Airgap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority	44.00	Sqm			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
10.05	Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer- in-Charge.	16.00	Sqm			
10.06	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) 1st layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.					
a)	Using rough kota stone.	110.00	Sqm			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
10.07	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :					
a)	Using rough Kota stone	154.00	Sqm			
10.08	Manufacturing, supplying and fixing retro reflective overhead signage boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity and encapsulated lens type heat activated retro reflective sheeting conforming to type - III of ASTM-D-4956-01 as approved by Engineer-in-charge, letters, borders etc. as per IRC : 67-2001 in silver white with blue colour back ground and with high intensity grade, pasted on substrate by pressure sensitive adhesive backing which shall be activated by applying pressure conforming to class II ofASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloys, rivets or bolts & nuts @ 300 mm centre to centre all along the periphery as well as in two vertical rows along with theft resistant measures, including the cost of painting with two or more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat.					

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Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
	The rate includes the cost of rounding off the corners, lowering down the structural frame work from the gantry, fixing and erecting the same in position all complete as per drawings, specification and direction of the engineer-in-charge.(Structural frame work including M.S. plate to be provided separately. Rectangular area of the sheet only shall be measured for separately.					
a)	Overhead informatory road signage	50.00	Each			
10.09	Providing and applying 2.5 mm thick road marking strips (retro-reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour ,T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	50.00	Sqm			
10.10	Providing & fixing of external signages of varying sizes & shapes using GI sheet of atleast 19G, painting the entire board both surfaces with 1 coat of primer & 2 coats of synthetic enamel painting, lettering of approved type on board of any sizes in English / Hindi or Local language complete as per technical specifications & directions of Engineer.	50.00	Sq.ft			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
10.11	Providing & Fixing Wall Mounted Nonlit Utility 6" x 6" Internal sign of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	50.00	Nos			
10.12	Providing & Fixing Wall Mounted Nonlit Identification sign 18"x5" of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	50.00	Nos			
10.13	Providing & Fixing Wall Mounted Nonlit Utility 24" x 9" Internal sign of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	50.00	Nos			
10.14	Providing & Fixing Wall Mounted Nonlit Fire Exit 24" x 9" Internal sign of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	20.00	Nos			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
10.15	Providing & Fixing Wall Mounted Nonlit directory sign 2' x 3' of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	10.00	Nos			
10.16	Providing & Fixing Wall Mounted Nonlit directory sign 3' x 4' of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	5.00	Nos			
10.17	Providing & Fixing Wall Mounted Nonlit directory sign 3' x 3.5' of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	2.00	Nos			
10.18	Providing & Fixing Suspended Nonlit sign 48"x9" of approved make & made of 1" Aluminium framing duly PU painted and 10mm Acrylic element mounted to it from either side with the required text matters stuck on it with plotted Self Adhesive Vinyl bracketed at suitable locations, including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.	20.00	Nos			
Total of sub-head						

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
11.00	Road work, Horticulture and Dismantling					
11.01	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres.	2500.00	SQM			
11.02	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.					
a)	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	125.00	Cum			
11.03	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	125.00	Cum			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
11.04	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in- charge.	150.00	Cum			
11.05	Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately).					
	Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.					

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
a)	Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer.	150.00	Cum			
11.06	Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom.					
a)	With medium setting bitumen emulsion					
i)	On W.B.M / W.M.M. @ 0.4kg/sqm	500.00	Sqm			
ii)	On bituminous surface @ 0.25kg/sqm	500.00	Sqm			
11.07	2.5 cm premix carpet surfacing with 2.25 cum and 1.12 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sqm and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately).					
a)	With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP: 53	500.00	Sqm			
11.08	Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler fitted with the spray set spraying using 98 kg of bitumen of grade VG - 10 and blinding surface with 0.90 cum of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface, including rolling and finishing with power road roller all complete.	500.00	Sqm			
11.09	Providing and laying in position bitumen hot sealing compound for expansion joints etc					

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
a)	Using grade 'A' sealing compound.	1000.00	Per cm depth per cm width per m length			
11.10	Providing and laying factory made coloured chamfered edge Cement Concrete paver blocks of required strength, thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of fine sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with jamuna sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand in footpath, parks, lawns, drive ways or light traffic parking etc. complete as per manufacturer's specifications & direction of Engineer- in-Charge. 60mm thick C.C. paver block of M-35 grade with approved colour, design & pattern.	1000.00	sqm			
11.11	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1 cement: 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	50.00	Cum			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
11.12	Supplying and stacking of good earth at site including royalty and carriage all complete(earth measured in stacks will be reduced by 20% for payment).	600.00	Cum			
11.13	Supplying and stacking sludge at site including royalty and carriage complete (sludge measured in stacks will be reduced by 8% for payment).	100.00	Cum			
11.14	Supplying and stacking at site well decayed cow dung manure from approved source, including carriage complete (manure measured in stacks will be reduced by 8% for payment).	100.00	Cum			
a)	Screened through sieve of I.S. designation 16 mm					
11.15	Fine dressing the ground	2000.00	Sqm			
11.16	Spreading of sludge, dump manure or/and good earth in required thickness including mixing earth and sludge or manure in the required proportion specified or directed by the Officer in Charge (Cost of sludge, dump manure or/ and good earth to be paid separately).	200.00	Cum			
11.17	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately).					
a)	With grass turf	2000.00	Sqm.			

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

Bill of Quantities (Civil)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures (Rs.)	Rate in Words (Rs.)	Amount in Figures (Rs.)
1	2	3	4	5	6	7
11.18	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately):					
a)	Holes 1.2 m dia and 1.2 m deep.	20.00	Each			
b)	Holes 60 cm dia, and 60 cm deep.	20.00	Each			
	Total of sub-head					

Proposed Construction of 100 Bedded Hospital at Mandi town, HP

ABSTRACT OF COST (CIVIL)

S.No	DESCRIPTION OF WORK	Amount (Rs.)
1	EARTHWORK	
2	CONCRTE WORK	
3	RCC WORK	
4	WALLS AND PARTITIONS	
5	DOORS & WINDOWS	
6	STEEL WORK	
7	FLOORING	
8	CEILING & ROOFING	
9	FINISHING	
10	MISCELLANEOUS	
11	ROAD WORK, HORTICULTURE AND DISMANTLING	
	TOTAL	

BILL OF QUANTITIES

OF

PUBLIC HEALTH
ENGINEERING

	Design & Engineering Department					
	Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM					
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
	1.00 SANITARY FIXTURES					
1.01	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :					
a)	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	each	15.00			
1.02	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
a)	W.C. pan with ISI marked black solid plastic seat and lid	each	28.00			
1.03	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require :					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	White Vitreous China Flat back wash basin size 550x400 mm with single 15 mm C.P. brass pillar tap	each	40.00			
b)	White Vitreous China Surgeon type wash basin of size 660x460 mm with single 15 mm C.P. brass pillar taps with elbow operated levers ISI marked	each	5.00			
1.04	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
a)	Kitchen sink with drain board					
a i)	510x1040 mm bowl depth 250 mm	each	7.00			
1.05	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
a)	Size 600x450x200 mm	each	10.00			
1.06	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :					
a)	Rectangular shape 453x357 mm	each	45.00			
b)	Providing and fixing full size branded mirrors of 5mm thick float glass (of approved quality) complete with 6mm thick ply backing fixed to wall over suitable hardwood base frame complete with 32mmx19mm decorative teakwood moulding all around duly polished as per drawings and as directed.	sq.m.	2.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
1.07	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	each	10.00			
1.08	Providing and fixing toilet paper holder :					
a)	Vitreous china	each	28.00			
1.09	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	each	45.00			
1.11	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	each	10.00			
1.12	Providing and fixing water Jet Nozzle with hose pipe and haif turn CP brass angle valve to be fitted with seat cover of european water closet complete in all respect of approved quality	Each	28.00			
1.13	Providing and fixing soap tray with CP brass lid and brackets fixed to wooden cleats with CP brass screws.(Jaquar model no.1131 or equivalent model of other approved make).	Each	10.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
1.14	Providing and fixing CP brass towel rail size of 600x20 mm of approved make complete with CP brackets fixed to wooden cleats with CP brass screws(Jaquar model no.1111 or equivalent model of other approved make)	Each	45.00			
1.15	Providing and fixing brass coat hook of approved quality and make complete with material of fixing	Each	20.00			
1.16	Extra for providing and fixing white vitreous china oval shape wash basin in place of normal wash basin with CI/MS brackets painted white, 15 mm CP brass pillar taps, 32 mm CP brass waste of standard pattern, including painting of fittings and brackets cutting and making good the walls wherever required					
a)	Counter top oval shape wash basin size 550x470 mm with centre tap hole, single 15 mm CP brass swan neck type pillar tap	Each	40.00			
1.17	Providing and fixing stainless steel grab bar 25mm dia of required length minimum 750 mm with PVC cleats, C.P. brass screws etc. complete.	Each	10.00			
1.18	Providing and fixing vitreous china division plate of size 960x165x325 mm of approved make and design including brass cleats,C.P. brass screws all fittings etc. complete in all respect	Each	10.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
1.19	Providing and fixing Hospital white vitreous china bed pan sink with P trap, size 600 x 450 mm with 10 litres C.I. High level flushing cistern flush pipe, C.I./M.S. bracket painting with 3 coats of white paint complete with accessories, C.P. brass fittings with vertical jet horizontal spray complete with control cocks.	Each	4.00			
1.20	Supply , installation, testing and commissioning of compact floor mounted pedestal base surgical scrub sink tailor made to suit the site available compatible with all the regular and standard plumbing system, with inbuilt geyser designed for use in operation theatre fabricated from 16 gauge 304 type stainless steel seamless welded,polished to satain finish including connecting to drainage and water points and making good cutting of walls and floor surface all complete and as directed					
a)	Tailor made surgical scrub sink (2 bay) Approximate size 1.4 mX0.54mX0.84m with 1 user elbow operated mixture tap, soap dispensers, drain outlet ,thermostatic control of water temperature	Each	2.00			
SubTotal(Sanitary Fixtures)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
2.00	SOIL, WASTE AND VENT PIPES					
2.01	Providing and fixing soil, waste and vent pipes.					
a)	100 mm dia.					
i)	Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989	Metre	950.00			
b)	150 mm dia					
	Centrifugally cast (spun) iron socketed pipe as per IS:3989	Metre	10.00			
2.02	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	for 100 mm dia. pipe	Each	75.00			
2.03	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
a)	100 mm					
a i)	Sand cast iron S&S as per IS-3989	Each	50.00			
2.04	Providing and fixing plain bend of required degree.					
a)	100 mm					
a i)	Sand cast iron S&S as per IS:3989	Each	75.00			
2.05	Providing and fixing heel rest sanitary bend.					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	100 mm dia					
a.i)	sand cast iron S&S as per IS-3989	Each	15.00			
2.06	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.					
a)	100x100x100mm					
a.i)	sand cast iron S&S as per IS-3989	Each	35.00			
2.07	Providing and fixing single equal plain junction of required degree					
a)	100x100x100mm					
a.i)	sand cast iron S&S as per IS-3989	Each	75.00			
2.08	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete					
a)	100 mm					
a.ii)	sand cast iron S&S as per IS-3989	Each	25.00			
2.09	Providing and fixing terminal guard.					
a)	100 mm	Each	15.00			
a.i)	sand cast iron S&S as per IS-3989					
2.10	Providing and fixing collar					
a)	100 mm					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a.i)	Sand cast iron S&S as per IS-3989	Each	50.00			
2.11	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	100 mm	Each	500.00			
2.12	Providing Drip seal joint of approved make for the sand cast iron/centrifugally cast iron pipes where the workability of lead joint can be effected due to space constraints.					
a)	100 mm	Each	225.00			
2.13	Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :					
a)	100 mm	Each	15.00			
2.14	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:					
a)	100 mm inlet and 100 mm outlet (P trap with 50 mm water seal)					
a i)	Sand cast iron S&S as per IS-3989	Each	55.00			
2.15	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement: 4 coarse sand):					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	100 mm diameter pipe	Metre	30.00			
2.16	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint off any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	100 mm diameter pipe	Metre	500.00			
2.17	Providing and fixing floor drain points formed out of 65 mm dia GI elbow, including with 75mm dia Stainless Steel grating with frame, embedded in floor, all complete as directed.	Each	25.00			
2.18	Providing and fixing C.P. brass bottle trap for wash basin including CP waste fittings complete 32 mm dia complete in all respect of approved quality.	Each	45.00			
2.19	Providing and fixing C.P. brass bottle trap for sinks & urinal basin including CP waste fittings complete 40 mm dia complete in all respect of approved quality.	Each	25.00			
2.20	Providing and laying cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) 80 mm thick all-round the SCI/centrifugally S&S pipe diameter.					
a)	100 mm dia	Metre	400.00			
2.21	Providing and fixing dash fastner made of rust proof plated steel for holding the soil/waste supply pipes complete in all respect					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	Dash fastner for pipe more than 25 mm dia to 150 mm dia pipe of required size but not less than size 10 mm dia and 50 mm long minimum & shall be capable of taking 6 tonnes load and also include the supporting threaded rod of 8 mm dia and length 450 mm,the support MS structure angles etc. will be paid as per weight separately/approved steel structures support as per drawing.	Each	10.00			
2.22	Providing and fixing floor clean out plug consist of CI bend & GI socket heavy class with Brass cap & key for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in - ChargeFCO (floor clean out plug shall be flushed with floor finish					
	100 mm dia/150 mm dia	Each	20.00			
2.23	Providing and fixing clean out plug consist of GI socket/nipple heavy class with threaded pludge for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in -Charge					
	100 mm dia/150 mm dia	Each	10.00			
2.24	Providing and fixing G.I EXTENSION PIECE for 100 mm dia floor trap formed out of main pipe(Type A) with multiple side inlets, suitable for various dia pipes, side connections, including all fixtures and fittings as per site conditions and as per standard details and water tight sealing of joints and area surrounding the grating and as directed.	Each	50.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
2.25	Providing and fixing cPVC./GI pipes complete with cPVC /GI fittings including painting, jointing, testing the cost of cutting the chases and making good the same for waste water disposal complete as per direction of engineer incharge.					
a)	32 mm dia nominal bore (Wash basin to floor trap/floor drain)	Metre	45.00			
b)	40 mm dia nominal bore (Sink,Urinal to floor trap)	Metre	20.00			
c)	50 mm dia nominal bore (Floor Drain to Floor Trap)	Metre	70.00			
2.26	Providing & fixing SS floor trap grating 143x143x5mm thick screwable with SS fixed frame of 150x150 mm size as per approved make & model	each	50.00			
2.27	Steel work welded in built up sections/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
a)	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works .	kg	40.00			
2.28	Providing and fixing WC connector socket (for vitreous china & CI pipe) of EDPM good quality with polypropelene body 100x150/100x250 of approved quality and make complete in all respect.	Each	28.00			
SUB TOTAL(SOIL, WASTE AND VENT PIPES)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.00 WATER SUPPLY						
3.01	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
Internal work – Exposed on wall						
a)	15 mm nominal outer dia pipes	Metre	20.00			
b)	20 mm nominal outer dia pipes	Metre	200.00			
c)	25 mm nominal outer dia pipes	Metre	150.00			
d)	32 mm nominal outer dia pipes	Metre	160.00			
e)	40 mm nominal outer dia pipes	Metre	180.00			
f)	50 mm nominal outer dia pipes	Metre	200.00			
g)	62.5 mm nominal outer dia pipes	Metre	100.00			
h)	80 mm nominal outer dia pipes	Metre	50.00			
3.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
Concealed work, including cutting chases and making good the walls etc.						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	15 mm nominal outer dia pipes	Metre	350.00			
b)	20 mm nominal outer dia pipes	Metre	250.00			
c)	25 mm nominal outer dia pipes	Metre	100.00			
d)	32 mm nominal outer dia pipes	Metre	50.00			
e)	40 mm nominal outer dia pipes	Metre	20.00			
3.03	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes and fittings with one step CPVC solvent cement,trenching,refilling and testing of joints complete as per direction of Engineer in Charge.					
	External Work					
a)	50 mm nominal outer dia pipes	Metre	30.00			
b)	62.5 mm nominal inner dia pipes	Metre	10.00			
3.04	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :					
a)	50 to 80 mm nominal bore	Each	1.00			
3.05	providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)					
a)	25 mm nominal bore	Each	15.00			
b)	32 mm nominal bore	Each	12.00			
c)	40 mm nominal bore	Each	12.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
d)	50 mm nominal bore	Each	4.00			
e)	65 mm nominal bore	Each	2.00			
f)	80 mm nominal bore	Each	2.00			
3.06	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main					
a)	50 mm nominal bore	Each	1.00			
3.07	Providing and fixing unplasticised PVC connection pipe with brass unions:					
a)	45 cm length					
a i)	15 mm nominal bore	Each	167.00			
3.08	Constructing masonry chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					
a)	With F.P.s bricks	Each	2.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.09	Constructing masonry chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					
a)	With F.P.s bricks	each	2.00			
3.10	Painting CPVC/G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work					
a)	15 mm nominal outer dia pipes	Metre	20.00			
b)	20 mm nominal outer dia pipes	Metre	200.00			
c)	25 mm nominal outer dia pipes	Metre	150.00			
d)	32 mm nominal outer dia pipes	Metre	160.00			
e)	40 mm nominal outer dia pipes	Metre	180.00			
f)	50 mm nominal outer dia pipes	Metre	200.00			
g)	65 mm nominal outer dia pipes	Metre	100.00			
h)	80 mm nominal outer dia pipes	Metre	50.00			
3.11	Painting G.I. /CPVC pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.					
a)	50 mm diameter pipe	Metre	30.00			
b)	65 mm diameter pipe	Metre	10.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.12	Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work					
a)	50 mm diameter pipe	Metre	30.00			
b)	65 mm diameter pipe	Metre	10.00			
3.13	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.					
	Treated water Tank and Untreated water tank	per litre	30,000.00			
3.14	Providing and fixing C.P brass bib cock of approved quality confirming to IS:8931.					
a)	15 mm nominal bore	Each	44.00			
3.15	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
a)	15 mm nominal bore	Each	26.00			
3.16	Providing and fixing C.P. brass angle valve for basin mixer and geyser/cisterns points of approved quality conforming to IS:8931.					
a)	15 mm nominal bore	Each	167.00			
3.17	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
a)	15mm nominal bore.	Each	52.00			

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Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.18	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by municipal board complete with bolts,nuts rubber, insersions etc. (the tail plases if required will be paid seperatly)					
a)	80mm dia nominal bore	Each	1.00			
3.19	Providing and fixing PTMT ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball.					
a)	40 mm nominal bore, 206 mm long weighin not less than 690 gms	Each	2.00			
b)	50 mm nominal bore, 242 mm long weighin not less than 1240 gms	Each	2.00			
3.20	Cutting holes upto 30x30 cm in walls including making good the same					
a)	with common burnt clay F.P.S.(non modular) bricks	Each	50.00			
3.21	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof	Each	50.00			
3.22	Extra for providing wash basin mixer pillar tap in place of normal pillar tap	Each	39.00			

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Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.23	Providing & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chrome plated steel ball tested to a pressure not less than 10 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers etc.					
a)	15 mm diameter	Each	2.00			
b)	20 mm diameter	Each	18.00			
3.24	Providing and fixing mosquito proof coupling of approved Municipal design for scour and vent pipes for RCC overhead tanks complete in all respects					
a)	20 mm diameter	Each	7.00			
b)	25 mm diameter	Each	6.00			
c)	32 mm diameter	Each	5.00			
d)	40 mm diameter	Each	4.00			
3.25	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material on hot water supply/return pipes having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.					
a	15 mm to 25 mm diameter	Meter	50.00			
b)	32 mm to 50 mm diameter	Meter	10.00			
3.26	Providing and fixing C.P. brass Overhead (Rain Fall) shower (100mm) with arm and wall flange complete including cutting and making good the walls wherever required.	Each	26.00			
3.27	Providing and fixing C.P. brass lab sink pillar tap with long elbow operating lever handle of approved model and make complete in all respect (Aqua bath, Jaquar,Marc)	Each	10.00			

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Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.28	Providing & fixing solid state fully hygienic no touch hand drier of approved make rated for continuous repeat usage with solid state time delay LSF protection, with independent ambient light level & seasonal control temperatures including providing necessary C.I./M.S. brackets painted with two or three coats of enamel paint of approved shade over a coat of primer, wiring cables from drier to plug, plug tops etc. complete including cutting and making good the walls wherever required.	Each	2.00			
3.29	Supplying, fixing, testing and commissioning of storage type water heater (Geyser) etc. with Stainless steel body , copper container , automatic thermostatic control electric element, pressure release valve, M.S. nuts and bolts etc. conforming to IS: 2082					
b)	25 Litre Capacity	Each	26.00			
3.30	Providing & fixing water storage cooler of approved make and brand with SS body having minimum flow rate of 40 ltrs. Per hour and storage capacity 80 ltrs. Complete in respects.(VOLTAS/ BLUE-STAR/ USHA SHRIRAM)	Each	2.00			

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Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.31	Providing and fixing approved make & suitable model of R.O. plant (fully automatic operation)100ltrs. Per hour flow rate having capacity to treat the raw water and average recovery not less than 35% . The operating voltage to 230 volt AC +/- 10% alongwith required capacity on line SS pump of approved make (3HP minimum) and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, storage tank (3.0 mm (minimum) thick S.S. 304 sheet) 1500 lts of suitable size and ita supporting structure, over voltage and over current protection with switch mode power supply system complete in all respects including installation and fittings with the following provisions: (IONIEXCHANGE/ KENT/AQUAPROCESS,Pantair)					
a)	10 micron polypropylene sediment pre filter					
b)	10 micron bacteriostatic activated carbon block on line micron filter with 5 micron rating					
c)	Required Nos. and size of reverse osmosis memberane with 0.0001 micron pore size energy saving poly amide type					
d)	UV lamp of minimum capacity 100LPH and minimum lamp wattage 15W					
e)	MS powder coated frame efficient of TDS removal more than 90%. Antiscalant dosing and acid dosing system for self flushing/cleaning.Pressure switches and gauges, pH correction dosing system, Digital TDS meter, Digital pH meter, electric panel and necessary instrumentation included Rotameter.MS structure and fibre glass sheet weather protection cover as per site condition.	Each	1.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
3.32	Supplying, installing, testing and commissioning vertical on line multi stage centrifugal pumping set with mechanical seal, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with SS/gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).					
a)	Domestic water pumps (Treated water transfer pump to terrace tank)					
	Capacity 150 lpm					
	Head 30 M	Each	2.00			
b)	Domestic water pumps (Raw water Transfer pump to terrace tank)					
	Capacity 150 lpm					
	Head 30 M	Each	2.00			
	SUB TOTAL(Water Supply)					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
4.00	SEWARAGE & DRAINAGE					
4.01	Providing laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the pro-portion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete.					
a)	100 mm diameter	Metre	44.00			
4.02	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:					
a)	100 mm diameter S.W. pipe/RCC NP2	Metre	44.00			
b)	150 mm diameter S.W. pipe/RCC NP2	Metre	300.00			
c)	250 mm diameter S.W. pipe/RCC NP2	Metre	50.00			
4.03	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating, brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:.					
a)	150x100mm size P type					
a.i)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	22.00			
4.04	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement:2 fine sand) including testing of joints etc. complete					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	150 mm dia R.C.C. pipe	Metre	300.00			
b)	250 mm dia R.C.C. pipe	Metre	50.00			
4.05	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 (1cement : 4 coarse sand : 8graded stone aggregate 40 mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design.					
a)	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):					
a i)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	25.00			
4.06	Extra depth for manholes					
a)	Size 90 x 80 cm					
a i)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	2.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
4.07	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design:					
a)	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :					
a i)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	4.00			
4.08	Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m					
a)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	0.50			

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Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
4.09	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	87.00			
4.10	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete (including obtaining approval from DJB/Municipal corporation)					
a)	For pipes 100 to 250 mm dia	Each	1.00			
4.11	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
a)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	15.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
4.12	Constructing brick masonry open surface drain including factory made perforated RCC cover with edge protected with MS plate of 3 mm thick with bricks of class designation 75 in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation, 10cm thick bed concrete 1:5:10 (1 cement: 5 fine sand :10 graded stone aggregate 40mm nominal size) and 25mm thick cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 12.5 mm nominal size) for filling hunches including 12mm cement plaster 1:4 (1 cement:4 coarse sand) with a floating coat of neat cement inside the drain, its top and exposed side including disposal of surplus earth complete as per standard design.					
	25cm drain 30cm average depth					
a)	With F.P.S bricks	Metre	300.00			
4.13	Constructing septic tank, of size 7.5mx2.7mx3.0m approx. height(Height to be fixed as per site requirement i.e. below invert level of last manhole (1.5 m water depth) , in RCC M20, 200 mm thick (minimum) walls and 400 mm (minimum) base slab all as per detail design including all excavation, 20 cm thick bed concrete in 1:4:8 (one cement: 4 fine sand: 8 stone aggregate 40 mm) cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement, top slab in RCC M20, including centring, shuttering and steel work, also providing and fixing two nos.D.I. manhole cover & frame of size 560mm dia.(medium duty, lockable type) and cost of 75mm dia C.I. vent pipe upto 3 m height with C.I. Ventilating Cowl and providing & fixing 150 mm dia SW tees for inlet and outlet, C.I Rungs@300 mm c/c all complete in every respect as per drawing and as directed. The agency has to provide the shop drawings (structure and PHE) as per IS requirements and obtain the approval from HSCC.	Each	1.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
4.14	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.					
a)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	2.00			
4.15	Supply, installing, testing and commissioning vertical fully floodable type submersible sewage pump of non-corrosive material with shredder/cutter in close coupled design single stage, suitable for handling minimum 20 mm dia solids for transferring raw sewer from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge. (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.Electicl panal complet as per instruction of the Engineer in charge					
	Material of Construction (M.O.C): Corrosion Resistant in general : Casing — Cast Iron					
	: Impeller — Ductile cast iron					
	: Bearings — Anti friction, prelubricated ball bearings, packed with grease for life.					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
	Motor: — Dry Motor with built in over load protection					
	Protection - IP68.					
	Insulation Class - F					
	Duty of each pump					
i)	150 LPM against 8 M head (Sewage pump)	Each	1.00			
ii)	Electicl panal cable,etc complete as per instruction of the Engineer in charge	Set	1.00			
SUB TOTAL(SEWERAGE AND DRAINAGE)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
5.00	EARTH WORK					
5.01	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation,trenches or drains(not exceeding 1.5m in width or 10 sqm on plan) ,including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m					
a)	All kinds of soil	cum	53.00			
5.02	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed. within a lead of 50 m:					
a)	All kinds of soil					
i)	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	metre	394.00			
5.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m	cum	18.00			
SUB TOTAL(EARTH WORK)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
6.00	EXTERNAL WATER SUPPLY					
6.01	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :					
a)	All kinds of soil					
a.ii)	Pipes, cables etc, not exceeding 80 mm dia but not exceeding 300 mm dia	metre	280.00			
6.02	Providing and fixing gun metal non-return valve of approved quality (screwed end)					
a)	100 mm nominal bore					
a.i)	Horizontal	each	2.00			
6.03	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :					
a)	100 mm diameter					
a.i)	Class I	each	4.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
6.04	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :					
a)	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	2.00			
6.05	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :					
a)	20 mm diameter pipe	metre	20.00			
d)	100 mm diameter pipe	metre	100.00			
6.06	Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work					
a)	20 mm diameter pipe	metre	20.00			
b)	100 mm diameter pipe	metre	100.00			
6.07	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required:					
a)	20 mm nominal bore	each	2.00			
b)	100 mm diameter pipe	each	2.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
6.08	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc. if required will be paid separately):					
a)	50 mm dia	each	1.00			
6.09	Providing and laying D.I. specials of class k-12 suitable for push-on jointing as per IS:9523					
a)	Upto 600 mm dia	quintal	13.00			
6.10	Providing push-on-joints to Centrifugally (Spun) Cast Iron pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket					
a)	150mm dia pipes	joint	120.00			
6.11	Providing and laying S&S Centrifugally Cast (Spun)/Ductile Iron pipes conforming to IS:8329:					
a)	150 mm dia Ductile Iron Class k-7 pipes	metre	280.00			
6.12	Disinfecting C.I./D.I. water mains by flushing with water containing bleaching powder at 0.5 gms per litre of water and cleaning the same with freash water, operation to be reaeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory					
a)	150 mm diameter C.I./D.I. pipe	100metre	2.80			
6.13	Providing and fixing puddle flanged including 60 cm long GI pipe piece welded/threaded with MS plates 450x450x6 mm thick with both end screwed/flanged.					
a)	For 80 mm dia pipe	Each	2.00			
b)	For 100 mm dia pipe	Each	4.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
6.14	Providing and fixing suitable G.I. vent pipe upto 1m high Class-B (medium quality) with fittings complete as per drawing and as directed.					
a)	100mm Dia	Each	4.00			
6.15	Providing and fixing double seal type D.I. Manhole cover of 560 mm clear internal diameter of over all heavy duty with locking arrangement complete in all respects.	Each	4.00			
6.16	Providing and fixing garden hydrant of approved quality and make complete in all respect	each	4.00			
6.17	Providing and fixing G.I. pipes class B complete with G.I. fittings and clamps, including cutting and making good the walls etc.					
a)	20 mm dia nominal bore	Metre	20.00			
a)	100 mm dia nominal bore	Metre	200.00			
SUBTOTAL (EXTERNAL WATER SUPPLY)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
7.00	RAIN WATER PIPING					
7.01	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	Each	50.00			
7.02	Providing and fixing rain water ,soil, waste and vent pipes.					
a)	100 mm dia.					
a i)	Centrifugally cast (spun) iron socketed pipe as per IS:3989	Metre	280.00			
b)	150 mm dia pipe as per IS:3989	Metre	120.00			
7.03	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	for 100 mm dia. pipe	Each	105.00			
b)	for 150 mm dia pipe	Each	45.00			
7.04	Providing and fixing plain bend of required degree.					
a)	100 mm					
a ii)	Sand cast iron S&S as per IS:3989	Each	35.00			
b)	150 mm	Each	15.00			
7.05	Providing and fixing heel rest sanitary bend.					
a)	100 mm dia					
a.ii)	sand cast iron S&S as per IS-3989	Each	35.00			
b)	150 mm dia	Each	15.00			
7.06	Providing and fixing collar					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
a)	100 mm					
a.ii)	Sand cast iron S&S as per IS-3989	Each	70.00			
c)	150 mm	Each	30.00			
7.07	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	100 mm	Each	190.00			
b)	150 mm	Each	80.00			
7.08	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	100 mm diameter pipe	Metre	280.00			
c)	150 mm diameter pipe	Metre	120.00			
SUB TOTAL(Rain Water pipe & fitting)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
8.00	BOREWELL(1 No)					
8.01	Drilling by suitable rig as per IS : 2800-1979 (percussion or combination rig) or Reverse Rotary to suit site condition from ground level in all kind of soils and weathered rock including boulders (excluding rock) diameter of bore 300mm including carry out hydrological survey report before boring & getting the approval based on Hydrogeological survey before start of the work.Also getting approval from local authority if any required					
a)	0-30m	metre	30.00			
b)	30-60m	metre	30.00			
c)	60-90m	metre	30.00			
d)	90-120 m	metre	30.00			
8.02	Extra additional for drilling in Ordinary Rock if any found	metre	25.00			
8.03	Extra additional for drilling in Hard Rock if any found	metre	25.00			
8.04	Providing and lowering uPVC casing/housing pipe 150mm dia. with wall thickness 10 mm conforming to IS :12818 including sockets of standard design.	metre	70.00			
8.05	Providing & fixing uPVC screen/slotted pipe with 1.5 mm to 3mm (slots as per strata condition) including sockets of standard design as per IS: 12818/1992.					
a)	150 mm dia uPVC socketed pipe with wall thickness 10.0 mm	metre	80.00			
8.06	Providing and fixing in position threaded iron cap with locking arrangement of approved design to prevent foreign matters getting into the bore-hole as required.	Each	1.00			
8.07	Providing and laying rounded pea gravel washed & served 3 to 6 mm nominal boreas per relevant ISI code.	Cum	16.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
8.08	Providing and laying cement concrete 1:2:4 mix for sanitary sealing of well at top.	Cum	1.00			
8.09	Supplying, lowering and fixing in position reducer ,PVC bail plug with "U" hooks as per IS:2800-1964.	Each	1.00			
8.10	Development of Tubewell including testing of yield depression & quality of water (for all parameters of potable water), contractor to obtain certificate for quality for water from Competent Authority approved by client or Engineer- In -Charge.					
a)	Development of Tube well by high capacity air compressor till the clear water discharge but not more than 100 hours.	per hour	80.00			
b)	Additional development of Tube well by high an over pumping unit till complete development of tube well does not clear by maximum 100 hours air compressor	per hour	50.00			
8.11	Tranportation, mobilisation and demobilisation or drilling equipment and ancillary equipment to site including clearing and cleaning the site after completion of work.	set	1.00			
8.12	Providing and fixing brass full way valve with C.I. wheel of approved make, tested to a pressure of 21 kg/sqcm.					
a)	80 mm dia	Each	1.00			
8.13	Providing and fixing gunmetal non return valve of approved make tested to a pressure of 21kg/sqcm.					
a)	80 mm dia	Each	1.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
8.14	Providing & fixing G.I. pipes (heavy class)confirming to IS with special fittings in external works including earthwork ,excavationin all kinds of soil including ordinary rock,refilling, painting pipes & fitting complete in all respects. 80 mm dia	Metre	100.00			
8.15	Providing & filling sand of grading zone V or coarser grade all around GI pipe in external work 80 mm dia	Metre	100.00			
8.16	Submersible pumps					
	Providing and installing submersible pump and electrical panel suitable for 6" dia casing of bore with SS impeller, high tensile SS shaft, copper wound squirrel cage wet type induction motor 2880 rpm, 415 V, 50 Hz,3 phase A.C. supply, conforming to ISS: 8034-1976, capacity 250-500 litre per minute at 70-120 m head along with a directly coupled submersible type squirrel cage electric induction 5 H.P(minimum) . motor suitable for operation on 400 V, 3 phase, 50 c.p.s. A.C. supply, water lubricated bearings and provided with pivoted segment type thrust bearings to withstand non-vertical lead with minimum wear and tear and duly fitted with device to take up the expansion of water with heating of motor, including supply, testing and commissioning of elctrical panel from the same manufacturer, complete with all accessories in all respects. The contractor to obtain approval for model and make of pumpset & suitable Electrical panel after having yield report of fully developed tube well and submite actual bore strata chart.					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
	including supplying laying and fixing water proof PVC insulated flat submersible cable 3x10 sqmm with end termination with its accessories. complete in all respect as required. 1 No. 3 Phase, fully automatic star-delta starter, type - II of 15 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required.	set	1.00			
8.17	Carrying out Electrical logging of Borewell before lowering of pipe for analysiing of water quality including Electrical logging report, calculation etc.	Job	1.00			
SUBTOTAL (BOREWELL)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
9.00	RAIN WATER HARVESTING(2NO.)					
9.01	Designing and Constructing of percolation pit cum perforated well 3000mm. dia upto 4000mm deep, 230 mm thick brick masonry work alround upto 1.5 m deep with 75 class brick in cement mortar 1:4, 200 mm foundation concrete in 1:4:8 mix below brick work only, 150 mm thick precast removable RCC top slab with required steel reinforcement in cement concrete 1:2:4 mix, filled with coarse aggregate, SFRC covers, river pebbles of requisite size stone as shown in the drawing including centering and shuttering, as shown complete as per detailed drawings complete.	Each	2.00			
9.02	Drilling as per IS : 2800-1964 (with percussion or combination rig) from ground level in all kind of soils including boulders (excluding rock) diameter of bore 450mm.					
a)	0-50m	Metre	60.00			
9.03	Extra for drilling in Ordinary Rock	Metre	10.00			
9.04	Extra for drilling in Hard Rock	Metre	10.00			
9.05	Providing and lowering of 200 mm dia uPVC blank/ slotted pipe with ribs, special fittings, jointing conforming to IS 12818 - 1992.	Metre	60.00			

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
9.06	Constructing bar screen / settling tank, of sizes 4500x2500 with suitable depth up to 2.0 m in 1: 4 Cement Mortar (one cement : 4 coarse sand) height as per site requirement, in brick masonry 350mm thick walls upto water level and 230mm thick walls above water level & upto ground level, including all excavation, 20 cm thick bed concrete in 1:4:8 (one cement 4 fine sand 8 stone aggregate 40 mm), cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement as inside finish , top slab in RCC 1:2:4, including centring, shuttering and steel work, also providing and fixing D.I. manhole cover & frame of size 605mm x 450mm of weight not less than 38 kg (frame + cover) and cost of 100mm dia C.I. vent pipe with C.I. Ventilating Cowl and suitable wire mesh provision for inlet, 115mm baffle walls extending 2/3 the width spaced@500mm c/c including finishing with 1:3 cement plaster 15mm thick with floating coat of neat cement slurry , all complete in every respect as per drawing and as directed to suit site condition.	Each	2.00			
SUBTOTAL (RAIN WATER HARVESTING)						

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
10.00	SOLAR WATER HEATING SYSTEM & RECIRCULATION OF HOT WATER SYSTEM					
10.01	Supply, installation, testing and commissioning of solar water heating system, Thermosyphon type, all complete based on Flat plat collector system (Cu-Cu Type only) comprising of but not limited to the following:					
a)	Requisite number of Flat plate collectors of 2 sq. mtr. collector area. Collector absorber plate to be made of copper tubes & copper fins only					
b)	Hot water storage tank made of stainless steel 304- food grade quality with 100 mm Glass wool insulation and cladding with 24 SWG Aluminum sheet. One temperature measuring device and suitable inlet, outlet and drain connections on the storage tank to be provided.					
c)	Heat Exchanger - Cage type Internal Heat Exchanger made of SS pipes shall be provided inside the Solar Tank. Heat exchangers shall have min. heat transfer area of 0.24 sq. mtrs. for every 100 LPD calacity. Suitable make up tank for the Heat Exchanger circuit shall also be provided					
d)	Interconnecting system piping shall consist of B Class insulated GI pipes covered with 50mm thick glasswool & clad with 26 SWG Aluminium Sheet. All Gate/Ball valves shall be of ISI make.					
e)	Electrical control panel, cabling from panel to pumps shall be provided					

Name of Work:BOQ of Proposed 100 Bedded Hospital at Mandi Town, Himanchal Pradesh project Under NRHM						
Sl. No.	Description of Item	Unit	Total qty.	Rate in words (in Rupees)	Rate in figures (in Rs.)	Amount in figures (in Rs.)
1	2	3	4	5	6	7
f)	The solar collector shall be arranged on roof of building in such a way that shadow can be avoided and requisite number of MS support for collector/tanks of minimum 35x35x5 MS angle adequate for 150 Km/Hr wind speed.					
g)	Solar water heating system based on Flat plat collector system technology with output capacity of as mentioned below with hot water at 60 degree centigrade having required Nos. solar collectors . As per complete item as per technical specification of make BHEL/TATA/EMMVEE. The system has to be installed by Manufacturers authorised distributors/approved specialised firms of Solar water heating of approved makeThe shop drawing of the systems shall be provided by the agency as per site condition obtain the proper efficiency The system shall be procured after obtaining the approval of shop drawings from HSCC / Engineer-in-charge. The solar hot water will supply the hot water to all the geyser,in view of this provision the backup electrical heating system at terrace hot water tank will not be provided for non solar days.					
i)	Solar System of Capacity 1500 Litre/day (With minimum 12 nos of Collect) of 2.0 Sqm area	each	2.00			
10.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					