GOVERNMENT OF JAMMU & KASHMIR

PUBLIC HEALTH ENGINEERING DEPARTMENT, JAMMU

PROJECT REPORT

WATER SUPPLY SCHEME

THULLAN DI PERHI UNDER NRDWP

Executive Engineer
PHE Division Nowshera

SALIENT FEATURES

ACCORD OF ADMINISTRATIVE APPROVAL WATER SUPPLY SCHEME THULLAN DI PERHI (NRDWP)

1. Name of Scheme : Water supply scheme Thullan Di Perhi
2. Name of District : Rajouri
3. Name of Tehsil : Sunderbani
4. Name of Block : Sunderbani
5. Name of Constituency : Nowshera
6. Type of Scheme : Lift
7. Type of Source of Scheme : Sub-Surface Water
8. Proposed Source : Percolation well
9. Name of Habitations benefited with population as on 2012

S. No	Name of Panchayat	Name of village	Name of Habitatiion	Population 2001 AD	Present Pop. 2012 AD	Design Pop. 2027 AD
1.	Kangri	Kangri	Thulla De Perhi	257 Souls	367 Souls	596 Souls
2.	Kangri	Kangri	Gorha, S.C Basti & Owain	150 Souls	214 Souls	348 Souls
	Floating Population and New settlement				87 Souls	142 Souls
	Total				**668 Souls**	**1086 Souls**

10. Present Population i.e. 2012 AD : 668 Souls
11. Designed Population i.e. 2027 A.D : 1086 Souls
12. Proposed Rate of water supply : 09 GPD 12 GPD
13. Designed Water Requirement : 11240 ~~13,032 GPD~~
14. Availability of Water : 20,000 GPD
15. Cost of Scheme : ~~Rs. 109.00 lacs~~ 109.03 lacs
16. Cost Per Capita on Present Pop. : Rs. 16,317.00
17. Cost Per Capita on Designed Pop. : ~~Rs. 10,037.00~~

J.E.

Asstt. Executive Engineer
PHE Sub Division
Sunderbani

Executive Engineer
PHE Division
Nowshera

PROJECTED POPULATION, WATER REQUIREMENT AND FEASIBILITY REPORT FOR WATER SUPPLY SCHEME THULLAN DI PERHI

FEASIBILITY REPORT

Percentage decadal growth rate of district Rajouri

1991-2001 = 25.71%

2001-2011 = 32.93%

As per census 2001 Population of Habitation Thullan Di Perhi = 257 Souls

Habitation of Gorha , S.C Basti & Owain = 150 Souls

Total = 407 Souls

POPULATION BASED ON GROWTH RATE

Present Population as on 2012 AD = $407 \times (1+ 3.29/100)^{11}$ = 581 Souls

Present Population as on 2027 AD = $581 \times (1+ 3.29/100)^{15}$ = 944 Souls

Floating Population @ 15% of designed Population = 142 Souls

Total = 1086 Souls

REQUIREMENT OF WATER

Total Designed Population of 2027 AD = 1086 Souls

Proposed rate of water supply/Capita/day = ~~12~~ 09 GPD 9774

Total requirement of water per day = ~~13032~~ GPD

Water available from source proposed source = 20000 GPD

The scheme has been framed to cover the Main habitation of Thullan Di Perhi along with adjoining habitations of Gorha , S.C Basti & Owain which at present has no piped water supply. The Proposed source i.e. percolation well with an anticipation discharge of 20,000 Gins per day shall cater to the water requirement of the scheme. Hence the scheme is feasible.

STORAGE REQUIRED

Total ultimate demand of water		9774 G.P.D = 13032 GPD
Add 15% losses for wastage, leakage etc.		1466 GPD = 1954 GPD
	Total	11240 GPD = 14986 GPD
Storage for half day demand		= 7493 GPD

Hence Proposed storage 10, 000 Gallons Ground Storage Reservoir

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PHE Sub Division
Sunderbani

Executive Engineer
PHE Division
Nowshera

TECHNICAL REPORT

ACCORD OF ADMINISTRATIVE APPROVAL FOR WATER SUPPLY SCHEME THULLAN DI PERHI NRDWP)

1. **Name of the Scheme** : Water Supply Scheme Thullan Di Perhi
2. **Authority** : Government of Jammu & Kashmir
3. **Name of District** : Rajouri
4. **Name of Tehsil** : Sunderbani
5. **Name of Constituency** : Nowshera
6. **Scope of the Scheme** : Thullan Di Perhi

S. No	Name of Panchayat	Name of village	Name of Habitatiion	Population 2001 AD	Present Pop. 2012 AD	Design Pop. 2027 AD
1.	Kangri	Kangri	Thulla De Perhi	257 Souls	367 Souls	596 Souls
2.	Kangri	Kangri	Gorha, S.C Basti & Owain	150 Souls	214 Souls	348 Souls
	Floating Population and New settlement				87 Souls	142 Souls
	Total				**668 Souls**	**1086 Souls**

7. **Location** : The Water Supply Scheme Thullan Di Perhi is located on Northern side and is about 20 Kms from the Sunderbani Town and is approachable by Pacca road.

8. **History & Necessity** : The habitation of Thullan Di Perhi, S.C Basti and Owain having population of 668 souls at present is deprived of drinking water facility and are without tapped water supply and are suffering tail of. The habitation of Thullan Di Perhi, S.C Basti and Owain having population of 668 souls at present is deprived of drinking water facility and are without tapped water supply and are suffering for want of drinking water supply and have to traverse long distances on foot to fetch water. Moreover, the situation worsens during peak summer season when the Zamandari's wells and Bowlies dry up due to

intensive heat.. Therefore, the people are approaching this department for formulation of an independent water supply scheme for the area so that they could get sufficient water supply. Keeping in view facts above, it has become necessary to explore some perennial source to provide adequate water supply to the public thus necessitated framing of the project report under NRDWP.

8. **Proposals** : To overcome the designed requirement it has been proposed to construct a percolation well with an anticipated discharge of 20,000 GPD. Sump Tank having a capacity of 10,000 Glns shall also be constructed near the proposed percolation well. Construction of pump room for installation of pumping machinery has also been envisaged in the project. The water from the sump tank shall be lifted to the proposed 10,000 Glns capacity storage reservoir at Thullan Di Perhi through 80mm dia rising main line having a length of 3500mts. Erection of Electric Substation including laying of HT and LT lines have also been proposed in the project. Installation of properly designed pumping machinery along with standby have also been proposed in the project.

11. Estimated Cost & Time Of Completion : The estimated cost of the project works out to 109.00 Lacs and the project is proposed to be completed in three years time provided funds and key construction material are made available in time.

Bhagat
J.E.

Asstt. Executive Engineer
PHE Sub Division
Sunderbani

Executive Engineer
PHE Division
Nowshera

Superintending Engineer
Jal Hydraulic Circle

No: SEHR/PHE/AA/ 05 of 2018 Dated: 06-09-2018

Administrative Approval Accorded for Rs. 109.00 lacs (Rupees One Hundred Nine Lacs only) by debit to Major Head 4215 under NRDWP for Improvement and up-gradation of Water Supply Scheme "THULLAN DI PERHI" of PHE Division Nowshera, District Rajouri.

Superintending Engineer
Hydraulic Circle
Rajouri

GENERAL ABSTRACT OF COST FOR WATER SUPPLY SCHEME THULLAN DI PERHI

S. No.	Name of Work	Estimated Cost (Rs. In lacs)
1.	Cost for Construction of Percolation well Plant.	Rs. 15.65 lacs
2.	Cost for Construction of Pump Room near percolation well.	Rs. 03.72 lacs
3.	Cost for Construction of 10,000 Glns capacity Sump Tank near percolation well.	Rs. 03.59 lacs
4.	Cost for Construction of 10,000 Glns Ground Storage Reservoir at Thulan Di Perri	Rs. 03.75 lacs
5.	Cost for Providing and laying of Rising main from percolation well.	Rs. 22.72 lacs
6.	Cost for Providing and laying of distribution system from Storage Reservoir.	Rs. ~~36.97~~ 35.95 lacs
7.	Cost for creation of 100KVA electric substation near proposed Percolation well. (L.S)	Rs. 6.00 lacs
8	Cost for Providing and installation of Pumping machinery including standby.	Rs. 15.37 lacs
	Total	Rs. ~~106.77~~ 108.75 Lacs
	Add work charge and contingencies @ 2.5% except item No 8.	Rs. 2.28 Lacs
	G.Total	Rs. ~~109.05~~ 109.03 lacs

Say 109.00 Lacs

J.E.

Asstt. Executive Engineer
PHE Sub Division
Sunderbani

Executive Engineer
PHE Division
Nowshera

Superintending Engineer
Hydraulic Circle

DETAILED ESTIMATE FOR PROVIDING AND INSALLATION OF PUMPING MACHINERY FOR WATER SUPPLY SCHEME THULLAN DI PERHI

S.No.	Particulars	Amount
1.	Providing and installation of submersible pump set along with standby having specifications of 4,000 GPH and 30 mtr head including installation of preventive devices and testing at Percolation well .	3.00 Lac
2.	Providing and installation of horizontal pump set along with standby having specifications of 4,000 GPH discharge and head of 250 mtr including installation of preventive devices and testing at base stage.	10.00 Lac
3.	Providing and installation of Voltage stabilizer along with electromechanical accessories at Percolation well	2.00 Lac
	Total	**15.00 Lac**
	Add 2.5% for work charge and contingencies	**0.37 Lac**
		15.37 Lac

Say Rs. 15.37 Lacs

A.E.

Asstt. Executive Engineer
PHE Mech. Sub Division
Nowshera

Executive Engineer
PHE Mech. Division
Rajouri

CERTIFICATE

1. **Name of scheme** : **Water Supply Scheme Thullan Di Perhi.**

Certified that:-

1. The Proposed source of scheme is free from any dispute.
2. Discharge of proposed source is adequate and will cater the need of the designed population proposed to be covered under this scheme.
3. The source tapped will not adversely affect the water supply scheme (In case the same has been taped from the existing scheme).
4. The scheme has been properly investigated and proposals are viable from techno-economic consideration.

J.E.

Assistant Executive Engineer
P.H.E. Sub Division
Sunderbani.

Executive Engineer
PHE Division
Nowshera

DETAILED ESTIMATE FOR CONSTRUCTION OF PERCOLATION WELL WATER SUPPLY SCHEME THULLAN DI PERHI (NRDWP)

S. No	Particulars	Unit	Rate	Qty.	Amount (in Rs.)
1	Earth work in excavation over area (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth and lift upto 1.5m, disposed earth to be leveled and neatly dressed. (All kind of soil 70% and ordinary rock 30% $= \frac{16.00+12.00}{2} \times \frac{9.00+7.00}{2} \times 6.50 = 728.00$ Cum Channel $13.00 \times \frac{0.80+1.00}{2} \times 1.00 = 11.70$ Cum = 739.70 Cum	Cum	138.62	739.70	102537.00
2.	Extra for every additional lift of 1.5 m or part. 1st lift = 181.77 Cum 2nd lift = 157.20 Cum 3rd lift = 140.97 Cum 4th lift = 42.95 Cum	Cum Cum Cum Cum	24.26 48.50 72.78 97.04	181.77 157.20 140.97 42.95	4409.00 7627.00 10259.00 4168.00
3.	Pumping out water caused by springs, tidal or river seepage, broken water marks on drains and the like earth work, brick work and R.C.C work (dewatering including arrangement of pumping machinery and pumping equipment and P.O.L)	L.S			45000.00
4.	Reinforced cement concrete work as well staining excluding the cost of centering, shuttering finishing and reinforcement with 1:1.5:3 (1 cement:1.5 coarse sand : 3 graded stone agg. 20 mm nominal size) Bottom beam = 2 x 8.50 x 0.50 x 0.50 = 4.25 Cum 3 x 3.75 x 0.50 x 0.50 = 2.81 Cum = 7.06 Cum	Cum	4238.95	7.06	29926.00
5.	Providing and laying R.C.C in walls (any thickness) in 1:1.5:3 mix. Walls = 2 (8.50 + 4.00) x 0.25 x 6.00 = 37.50Cum	Cum	4238.95	37.50	158960.00
6.	Providing and laying 80 mm dia weep holes. = 50 Nos.	Each	100.00	50	5000.00
7.	Providing and laying of R.C.C slab 1:2:4 mix 20mm Slab = 8.50 x 4.50 x 0.15 = 5.73 Cum	Cum	3656.00	5.73	20948.00
8.	Reinforcement for R.C.C work Qty.vide item No 4,5&7 = 7.06+37.50+5.73 = 50.29 cum @ 125kg/cum = 6286 Kg Say = 6300.00 Kgs.	Kg	55.80	6300.0	351540.00
9.	Centering and shuttering incl. propping etc. and removal of form work Beam = 2 x 2 x 8.50 x 0.50 = 17.00 Sqm 2 x 3 x 4.00 x 0.50 = 12.00 Sqm = 29.00 Sqm Wall(Inner) = 2 x 2 x 8.50 x 6.00 = 204.00 Sqm	Sqm	137.60	29.00	3990.00

	(outer) = 2 x 2 x 4.00 x 6.00 = 96.00 Sqm = 300.00 Sqm Slab 8.00 x 4.00 = 32.00 Sqm Edges of slab = 2 x (8.50+4.50) = 26.00 Rm	Sqm Sqm Rm	149.65 178.75 50.10	300.00 32.00 26.00	44895.00 5720.00 1303.00
10.	Dumping and filling of stones on horizontal i.e. on levels = $\frac{16.00+12.00}{2} \times \frac{9.00+7.00}{2} \times 6.50$ = 728.00 Cum D/d P/Well = 8.50 x 4.50 x 6.50 = 248.62 Cum = 479.38 Cum	Cum	52.30	479.38	25071.00
11	Providing and laying of cement concrete 1:4:8 40mm size Ramp = 16.00 x 9.00 = 144.00 Sqm D/d P well = 8.50 x 4.50 = 38.25 Sqm = = 105.75 Sqm = 105.75 x 0.10 = 10.57 Cum	Cum	2098.70	10.57	22183.00
12	Supply of stone Qty. vide item No 10 = 479.38 cum D/d 15% voids = 71.90 cum = 407.48 cum D/F media = 68.04 cum = 339.44 cum	Cum	150.00	339.44	50916.00
13	Supply of stone aggregate 20 mm to 40 mm size. F/media =2 x (9.70+4.50) x 0.60 x 3.50 = 59.64 cum Beam =2 x (9.00+5.00) x 0.60 x 0.50 = 8.40 cum = 68.04 cum	Cum	320.00	68.04	21772.00
14	Providing and laying of cement concrete flooring 1:2:4 50mm thick size = 16.00 x 9.00 = 144.00 Sqm D/d P well = 8.50 x 4.50 = 38.25 Sqm = 105.75 Sqm	Sqm	238.70	105.75	25242.00

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Item No	Particulars of item	Qty	Rate	Cement	Rate	Sand	Rate	Stone agg	Stone agg 40mm
4.	R.C.C 1 : 1.5: : 3	7.06	8.00	56.48	0.43	3.03	0.89	6.28	
5.	R.C.C 1 : 1.5 : 3	37.50	8.00	300.00	0.43	16.12	0.89	33.37	
7.	R.C.C 1 : 2 : 4	5.73	6.40	36.67	0.45	2.57	0.89	5.09	
11	1:4:8	10.57	3.40	35.93	0.45	4.75	0.89	-	9.40
12	Stone	339.44							
13	Stone agg 40mm								34.02
14	Flooring	105.75	0.404	42.72	0.022	2.32	.044	4.64	
	F/media							68.04	34.02
	Total			471.80 472 bags		28.79 cum		83.40 cum	43.42 cum

15.	Carriage of cement in all terrains through a lead of 30 km by MT and 300mts by head load including cost of loading, unloading and stacking. = 23.60 MT	MT	196.48	23.60	4636.00
16.	Carriage of steel in all terrains through a lead of 30 km by MT and 300mts by head load including cost of loading, unloading and stacking. = 6.30 MT	MT	247.30	6.30	1558.00
17.	Carriage of stone aggregate of max size up to 6 to 26.5 mm by M.T all terrains through a lead up to 15 kms and 300mts by head load including cost of loading, unloading and stacking. = 17.14 cum	Cum	206.30	83.40	17205.00
18.	Carriage of stone aggregate of max size up to 26.5 to 40mm by MT in all terrains through a lead up to 15 kms and 300mts by head load including cost of loading, unloading and stacking. = 6.98 cum	Cum	223.68	43.42	9712.00
19.	Carriage of sand by M.T in all terrains through a lead up to 95 kms and 300mts by head load including cost of loading, unloading and stacking. = 8.66 cum	Cum	495.35	28.79	14261.00
20	Carriage of stones by MT in all terrains through a lead up to 15Km and 300mts by head load including cost of loading, unloading and stacking. = 339.44 Cum	Cum	209.93	339.44	71258.00
	Total				**1010096.00**
	Add 50% above SSR 2008 except item No 3 and 6 (Rs.1010096)				**505048.00**
	G.Total				**1565144.00**

Say 15.65 Lacs

J.E.

Asstt. Executive Engineer
PHE Sub Division
Sunderbani

Executive Engineer
PHE Division
Nowshera

27.	Carriage of stone aggregate of max size up to 6 to 26.5 mm by MT in all terrains through a lead up to 15 kms and 300 mts by head load including cost of loading, unloading and stacking. = 24.05 cum	Cum	206.30	24.05	4961.00
28.	Carriage of stone aggregate of max size up to 26.5 to 40mm by MT in all terrains through a lead up to 15 kms and 300mts by head load including cost of loading, unloading and stacking. = 6.98 cum	Cum	223.68	6.98	1561.00
29.	Carriage of sand by MT in all terrains through a lead up to 95 kms and 300 mts by head load including cost of loading, unloading and stacking. = 23.63 cum	Cum	495.35	23.63	11705.00
28.	Carriage of bricks for an average distance of 15 Km by MT from nearest brick kiln and 300 mts by head load including cost of loading and stacking.= 6977 Nos	1000 Nos	476.48	6977	3324.00
29.	Carriage of stones for an average distance of 15 km by MT and 300 mts by head load including cost of loading, unloading and stacking. = 5.04 Cum	Cum	209.93	5.04	1058.00
30.	Provision for electric fitting	L.S			10,000.00
	Total				**251382.00**
	Add 50% above SSR except item No 30				**120691.00**
					372073.00

Say Rs. 3.72 Lacs

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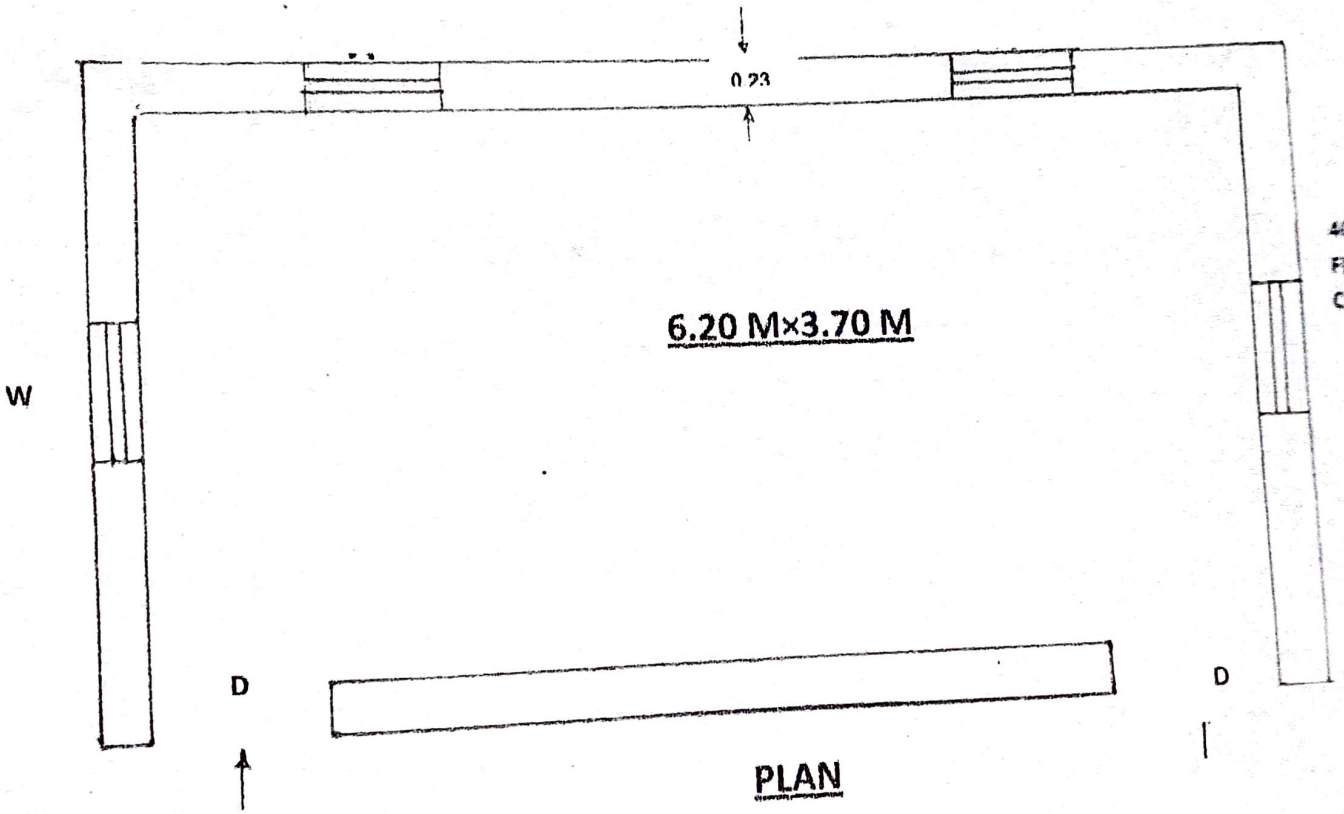
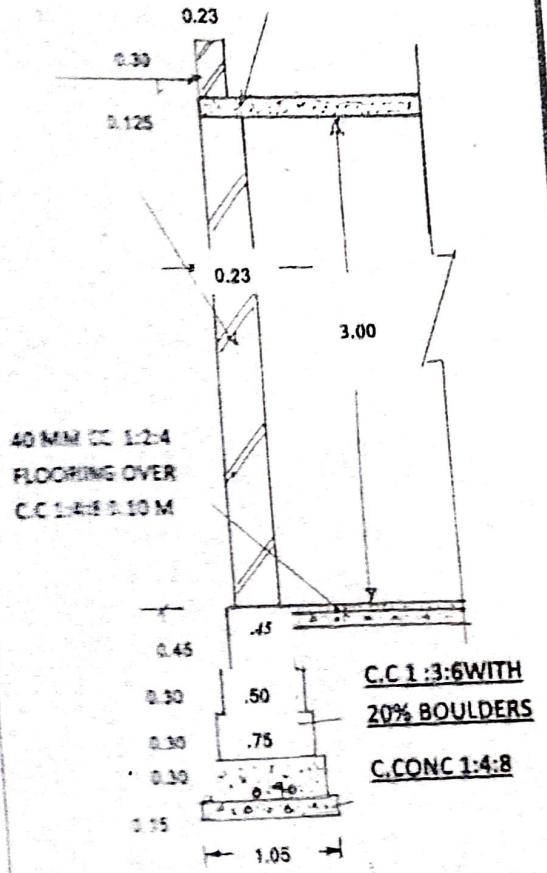
DRAWING FOR PUMP ROOM NEAR PERCOLATION WELL UNDER W.S.S THULLA DI PERHI



PLAN

BRICK MASONRY IN 1:6 MIX

RCC 1:2:4 12.5 CM THICK



SECTIONAL DETAILS

D = 1.20 × 2.10
W = 0.90 ×1.20

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