

DIVERSION OF 0.6030HA.OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-II
SMALL HYDRO PROJECT 0.80 MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P)

FILE NO .. :FP/HP/HYD/146882/2021

DATE OF PROOSAL : 31/01/2021

FORM – 'A'

Form for seeking prior approval under section 2 of the proposals
by the State Governments and other authorities

PART-I

(To be filled up by user agency)

1. Project details:	
(i) Short narrative of the proposal and project /scheme for which the forest land is required	<p>Banula Baroond – II SHP 0.80 MW is a run of the river scheme which has been envisaged to utilize the water of Churkhu Nala for power generation. The Project is bifurcated in two stages Banuala Baroond-I capacity 2 MW and Banuala Baroond II 0.80 MW from allotted 5 MW in same elevations. The scheme involves construction of Weir structure at EL 1700 m on Churkhu Nala and Water conductor system of 10 m length on the hill on the right bank of the Nala. Forebay has been fixed at EL 1694.44m (Bed Level), wherefrom water shall be dropped through 355 m long Penstock onto the Power House at EL 1615 m. Water from the Power House shall be released into the Nala on its right bank near the confluence of Churkhu Nala with Kamil Nala in Gram Panchayat Charda. Power generated from the Project shall be taken upto a Substation and LILO with the nearest 11 KV line of HPSEBL Nakrod feeder</p>

(ii) Map showing the required forest land, boundary of adjoining forest on a 1:50,000 scale map.	Layout Plan of the Project marked in red ink on the relevant part of the SOI Topo Sheet No. 52 D/5 is attached herewith - Scale 1: 50000.
(iii) Cost of the project:	Rs. 789 Lacs.
(iv) Justification for locating the project in forest area.	Hydro Power Projects are Site specific schemes. The Project is located in the remote area in the Lower reaches of Churkhu Nala. It is situated beyond the inhabited villages. Therefore all civil components have been conceived in the forest land.
(v) Cost-benefit analysis (to be enclosed).	Not Applicable as the area is less than 5 Ha.
(vi) Employment likely to be generated.	(a) 5000 men employment will be generated during the construction of this scheme. (b) 8 persons will be employed permanently after commissioning of Project.

2. Purpose-wise break-up of the total land required:

SL NO	MOHAL	COMPONENT / DESCRIPTION	AREA IN FOREST LAND (Sqm)	AREA IN PRIVATE LAND (Sqm)	TOTAL AREA REQUIRED (in Ha.)
1	PRABHA	WEIR SITE	97	-	0-00-97
2	PRABHA	CONVEYANCE CHANNEL	113	-	0-01-13
3	PRABHA	DUMPING SITE-I	312	-	0-03-12
4	PRABHA	D TANK CUM FOREBAY	162	-	0-01-62
5	PRABHA	PENSTOCK	336	-	0-03-36
6	PRABHA	POWER HOUSE COMPLES AND SWITCH YARD	607	-	0-06-07
7	PRABHA	DUMPING SITE -II	152	-	0-01-52
8	PRABHA	TAIL RACE	85	-	0-00-85
9	PRABHA	ROAD	1456	-	0-14-56
10		TRANSMISSION LINE	2548	-	0-25-48
11	PRABHA	DUMPING SITE-III	162	-	0-01-62
		TOTAL	6030	-	00-60-30 Ha.

3. Whether clearance under Environment (Protection) Act, 1986 required? (Yes/No).	No.
4. Undertaking to bear the cost of raising and maintenance of compensatory afforestation and / or penal compensatory afforestation as well as cost for protection and regeneration of Safety Zone, etc. as per the scheme prepared by the State Government (undertaking to be enclosed).	Enclosed at page no. 39
5. Details of Certificates/documents enclosed as required under the instructions. i) NOC of the Gram Panchayat – Charda ii) Details of land requirement. iii) Undertaking in respect of compensatory afforestation. iv) Geo Reference Map v) Revenue papers	Attached at Page No. 91 Attached at Page No. 76-77 Attached at Page No. 39 Attached at Page No. 28 Attached at Page No. 97-102

Date- Chamba
Place- 8710721

Signature
New Hydel Power
Authorized Signatory
Ved Vyas Thakur
Authorized Signatory
M/s New Hydel Power
Village Gholti PO Sarol Tehsil
and Distt. Chamba HP

DIVERSION OF 0.6030HA.OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-II
SMALL HYDRO PROJECT 0.80 MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P)

FILE NO .. :FP/HP/HYD/146882/2021

DATE OF PROOSAL :

RECLAMATION PLAN

BANUALA BAROOND-II HYDRO PROJECT(0.80 MW) DISTRICT CHAMBA (H.P)

Dumping site for disposal of muck have been identify with due consideration of its distance and suitability of the area and topography point of view.

Accordingly the following sites have been identified

Sr.no	Description	Mohal	Khasra No.	Area in Sqm
1	Dumping site -I	Prabha	62/2/2	312.00
2	Dumping site -II	Prabha	62/2/6	152.00
3	Dumping site--III	Prabha	62/2/9	162.00

Rehabilitation proposal

Since there is no displacement of any population due to the construction of the road there will be no rehabilitation problem

Afforestation

Compensatory Afforestation shall be carried out by the forest department for compensation shall be paid by the user agency. Area to be taken for Afforestation shall be the same of the forest land required for the construction of project.

Retaining Walls

RR Masonry/GI wire crate filled with boulders/ stones reclaimed fro, excavation of road shall be used for construction of retaining walls for retaining the surplus excavated earth /muck as per standard design of HPPWD with due consideration to site condition.

Use of muck /debris

Most of the excavation muck/debris obtained from the project components shall be used for manufacture of aggregates for construction work, filling in wire crates , stone masonry work breast wall, switchyard,etc. the remaining muck/debris will be neatly stacked in dumping areas identified for the purpose .

Plantation

The dumping area and various sites be properly leveled after the completion of the project. The area will be landscaped the plantation carried out so to merge with the nature surroundings.

Location of dumping	Area in Sqm.	Slope of dumping place in degree	Qty. of muck generated (CU.MTR)	Qty. with Swell Factor(CU.MTR) @45%	Qty. muck to used(CUM.Mtr)	Qty.of muck deposited (Cu.mtr)	Height of dumping expected in mtr.
Dumping site -I	312.00	15	760	1102	330.60	771.40	2.50
Dumping site -II	152.00	15	430	623.50	249.70	374.10	2.50
Dumping site-III	162.00	15	465	674.25	269.70	404.55	2.50
TOTAL	626		1655	2399.75	850	1550.00	2.50(Standard)

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Sr.no	Description	Mohal	Khasra No.	Area in Sqm	Height	Capacity of dumping site Qty.in cu. mtr
1	Dumping site -I	Prabha	62/2/2	312.00	2.50	780
2	Dumping site -II	Prabha	62/2/6	152.00	2.50	380
3	Dumping site--III	Prabha	62/2/9	162.00	2.50	405

Place : Chamba
Dated :

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MUCK DUMPING PLAN FOR BANUALA BAROOND-II SMALL HYDRO PROJECT (2.80 MW IN DISTT. CHAMBA HP)														Remarks
Sr. No.	Name of Component From Where Muck Is To Be Produced	Actual Size Of Component in sqm.	Total Qty. Of Muck to be Produced (in cum)	Factor of Increase in volume after excavation (45%)	Total Qty. Of Muck to be Dumped on The Basis Of increased Qty (in cum)	Qty. Of Muck To be utilized (in cum)	Total Qty. Of Muck Remaining After Utilization	Name of Dumping place	Size of Dumping Sites	Area of Dumping place in sqm.	Remaining g Height of Muck Dumped	Capacity of Muck To be Dumped	Quantity to be Dumped	
1	Intake/Trench WEIR	10x9.7	140	140*45/100=63	203	61	142	Dumping Site-I	20x15.6	312	2.5	780	142	Out of total Muck Generated About 30% Shall Be Used in Construction of Crates and Protection work. Rest of Muck including Swell Factor (35%) shall be Dumped in muck Dumping site I
2	Conveyance Channel	37x2.05	120	120*45/100=54	174	52.2	121.8						121.8	
4	D-tank cum forebay	16.2x30	250	250*45/100=94.50	304.5	91.35	213.15						213.15	
5	Penstock Pipe	130x1	290	290*45/100=130.50	420.5	126.15	294.35						294.35	
6	Power house and switchyard	30.35x20	340	340*45/100=153	493	197.2	295.8	Dumping Site-II	15.2x10	152	2.5	380	295.8	Out of total Muck Generated About 40% Shall be Used in Construction of Crates, Aggregates, Protection through R/Walls, R/Walls, Filling, Bearing and soiling. Rest Of the Muck including Swell Factor (35%) shall be Dumped in muck Dumping sites II
7	Tail Race	42.5x2	90	90*45/100=40.50	130.5	52.5	78.3						78.3	
8	Road	120x4	405	405*45/100=182.25	674.25	209.7	404.55	Dumping Site-III	16.2x10	162	2.5	405	404.55	Out of total Muck Generated About 40% Shall be Used in Construction of Crates, Aggregates, Protection through R/Walls, R/Walls, Filling, Bearing and Soiling of road. Rest Of The Muck including Swell Factor (35%) shall be Dumped in muck Dumping sites III
Total			1455		2299.75	850.1	1549.65			626.25(Avg)		1545	1549.95	

26/2/22

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9/5
Divisional Forest Officer
Chamba Forest Division
CHAMBA-176310

DIVERSION OF 0.6030HA OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-II
 SMALL HYDRO PROJECT 0.80 MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P.)
 FILE NO .. :FP/HP/HYD/146882/2021
 DATE OF PROOSAL :

COST ESTIMATION OF DUMPING SITES & PLANTATION BANUALA BAROOND - II 0.80 MW SHEP

SR. NO.	DESCRIPTION	UNIT	QTY.	RATE (IN Rs.)	AMOUNT (Rs.)
1	Cost of Surveying and Investigation	Lumsum	1	15000	15,000
2	Cost of Carrying of muck to the dumping site and properly stacking.	CUM	1550	50	77,500
3	Earth work for the excavation of Gabion wall i.e trenches of different size with proper depth, removal of bushes and stumps, shoring and bracing etc.	Cum	110	450	49,500
4	Cost of Crate wire 4mm dia with carriage upto site.	Kg	597	83	49,551
5	Providing RR Massionary and Stone Filled Gabion Wire Crates for protection Work.	CUM	180	750	1,35,000
6	Plantation of 270 plants @ Rs 25/- per plant.	Nos	270	25	6,750
7	Digging of pit for plantation.	Nos	270	50	13,500
8	Cost of Barbed wire Fencing for protection of Plants @ Rs. 45/- per plant.	Nos	270	45	12,150
9	Salary for Gardener(1) for 4 years (48 Months) @ Rs.6800/- per month.	Months	48	6800	3,26,400
10	2 Nos. Beldar for protection of plantation for 2 years @ Rs.350/- per day.	Year	2	255000	5,11,000
11	Reclamation and restoration.	Lumsum	1	100000	1,00,000
12	Landscaping and Beautification.	Lumsum	1	80000	80,000
13	Carriage of soil from Road side	Cum	75	500	37,500
14	Collection of Grass seed	Kg	70	600	42,000
15	Broadcasting of Grass seed plants	Nos.	80	400	32,000
Total					14,87,851

Place : Chamba

Dated : 21/3/2022

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 Divisional Forest Officer
 Chamba Forest Division
 CHAMBA


For New Hydel Power
 New Hydel Power
 Authorised Signatory

“ ABSTRACT OF COST”

**Name of work :- Construction of Banuala Baroond-II SHEP (0.80MW) in Tehsil Churah
Distt. Chamba being executing by M/s New Hydel Power .**

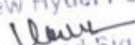
(Sub Head :- CONSTRUCTION OF WIRE CRATES TO THE DUMPING SITES)

S.NO	Item	Qty.	Rate	Unit	Amount
1	Earthwork in excavation for structure as per drawing and technical specifications clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50m, dressing of sides and bottom and backfilling in trenches with excavation suitable materials ordinary soil upto standard depth.	110	450	Per cubic Metre	49,500
2	RR Massionery and laying of boulder apron laid in wire crates with 4 mm dia GI wire conforming to IS:280 and IS :4826 in 100 mm X 100 mm mesh (woven diagonally) including 10 per cent extra for laps and joint laid with stone boulders weighing not less than 25 Kg each as per drawing and technical specifications Clause 1301.	180	750	Per cubic Metre	1,35,000
3	Provoide the GI wire of dia 4mm with all costs at site including Transportation and other charges.	597	83	Kg	49,551
Total					234051.00


Er. Vijay Singh(Civil)

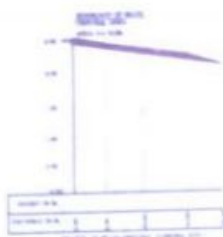
Naman Engineers and Consultants
Dharamsh



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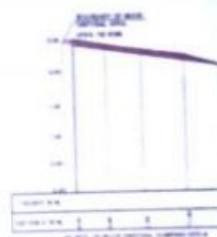
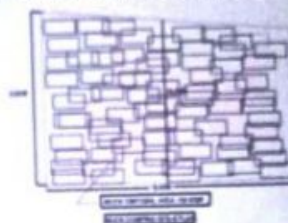
MUCK DUMPING PLAN OF BANUALA BAROOND-II SHEP 0.80 MW

LAYOUT OF MUCK DUMPING SITE AREA



DS-1

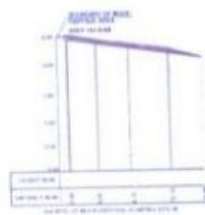
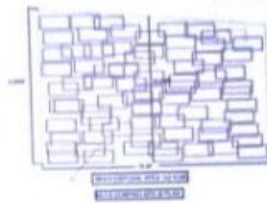
LAYOUT OF MUCK DUMPING SITE AREA



DS-2

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MUCK DUMPING PLAN OF BANUALA BAROOND-II SHEP 0.80 MW



DL-15

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DIVERSION OF 0.6030HA.OF FORESTLAND FOR CONSTRUCTION OF BANUALA BAROOND-II
SMALL HYDRO PROJECT 0.80 MW IN TEHSIL CHURAH DISTRICT CHAMBA (H.P)
FILE NO .. :FP/HP/HYD/146882/2021
DATE OF PROOSAL :

ALTERNATE SITES CONSIDERED TO MINIMISE THE USE OF
FOREST LAND FOR CONSTRUCTION OF
BANUALA BAROOND – II (0.80 MW) SMALL HYDRO ELECTRIC PROJECT

ALTERNATIVE-I

The proposed project is situated on the right bank of the Churkhu stream. The alternative involves construction of diversion structure at EL \pm 1700 m on Churkhu Nala. The water conductor shall consist of surface Desilting tank and water Conductor System on the right bank of Churkhu Nala comprising of 10 m length. Penstock alignment runs through rocky slope. The gross head available for power generation shall be around 85 m. Surface powerhouse shall be located on the right bank of the Churkhu Nala. There is no bend in Penstock alignment. As substantial part of the Channel lies in inhabitant area thus it will not have any other adverse environmental impact and cutting of trees.

Feature considered:

- Alignment of the proposed project falls on right bank of the stream. This has been deliberately designed for the reduction of land to be used, fewer amounts of trees to be cut and also based on the suitable strata for Channel. The proposal involves cutting of 18 trees.
- Forest land involved to the tune of 0.6030 Hectares.
- No disturbance to the stable slope & green cover.
- Limited number to trees to be cut off for execution of Water Conductor System.

ALTERNATIVE- II

This alternative involves construction of diversion structure on right Churkhu Nala at EL \pm 1700 m and the water conductor system involving Open Channel of about 50 m length passing through a loose rock on the right bank of the Nala. Geologically, this alternative is not appropriate for the safety of the Project components.

Feature Considered:

- Forest land involved to the tune of 0.6087 hectares and 25 trees are involved in this process.
- It is difficult for construction of open channel on the right side as the slope is very steep which may trigger landslide during and after construction and it also increases the number of trees to be cut.
- Gross head available also decreases, resulting in less power generation.
- A lot of trees to be cut resulting into decreasing forest cover in this area.


ALTERNATIVE- III

This is mainly left bank alternative involves construction of diversion structure at EL \pm 1700 m on the Churkhu Nala. Water of Churkhu Nala shall be diverted through a 50 m long Water Conductor System to the Forebay. There is open space available for location of Forebay. The penstock shall be over ground along with surface powerhouse on the left bank of the Churkhu Nala. The gross head shall be about 75 m. The length of the transmission line increases by 100 meters and the length of the road upto Power House shall increase by 460 m which increases the involvement of more forest land. In this alternative the Water Conductor System would cross the agriculture land resulting in erosion of agricultural land.

Features Considered:

- Entire alignment falls on left bank of Churkhu Nala.
- Forest land involved to the tune of 0.7074 hectares and 21 trees are involved in this proposal.
- Length of water conductor system involved is more which increases the construction time.
- Total area involved is more which leads to cutting of more trees, Diversion of more forest land.
- Left bank of Churkhu Nala covering proposed Powerhouse and Penstock consist of loose strata which is vulnerable to landslides.

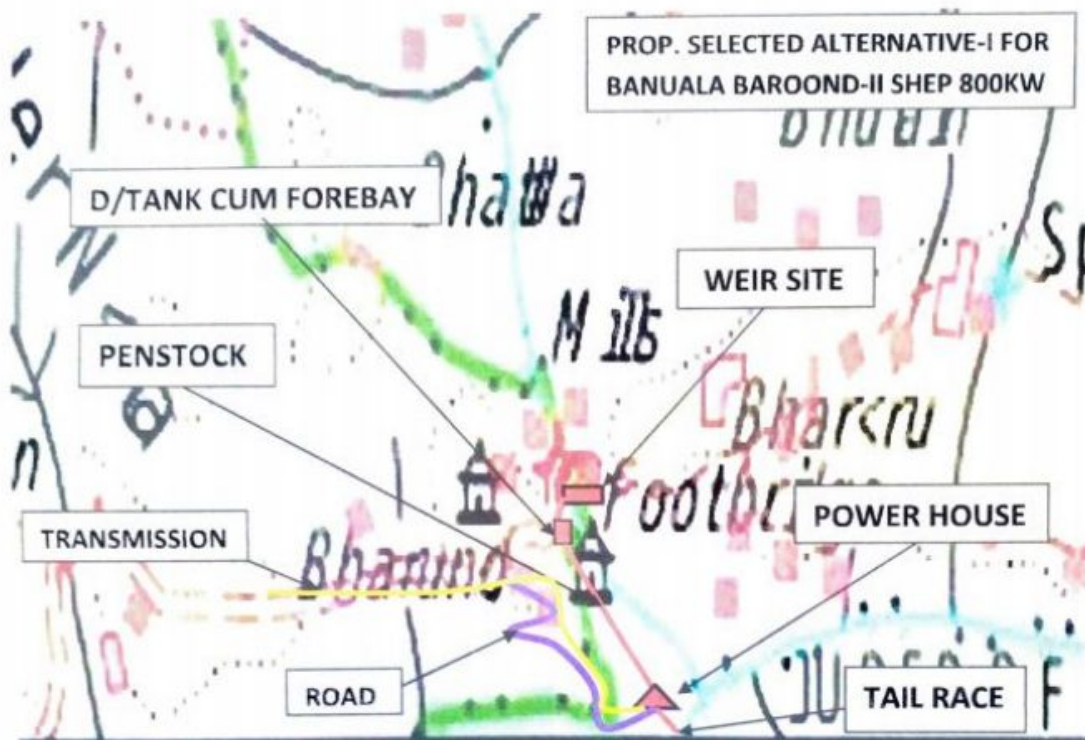
Keeping in view all the above three alternative, the **alternative- I**, which is more suitable and environmental friendly, has been finally adopted.

For New Hydel Power
New Hydel Power

Authorised Signatory
Authorised Signatory

BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)
TEHSIL CHURAH DISTRICT CHAMBA (H.P.)

SOI TOPO SHEET : 52D/5

ALTERNATIVE --I



FEATURES CONSIDERED

AREA INVOLVED	0.6030 HA.
TREES INVOLVED	18 NO.

New Hydro Power
 Authority
 Signature

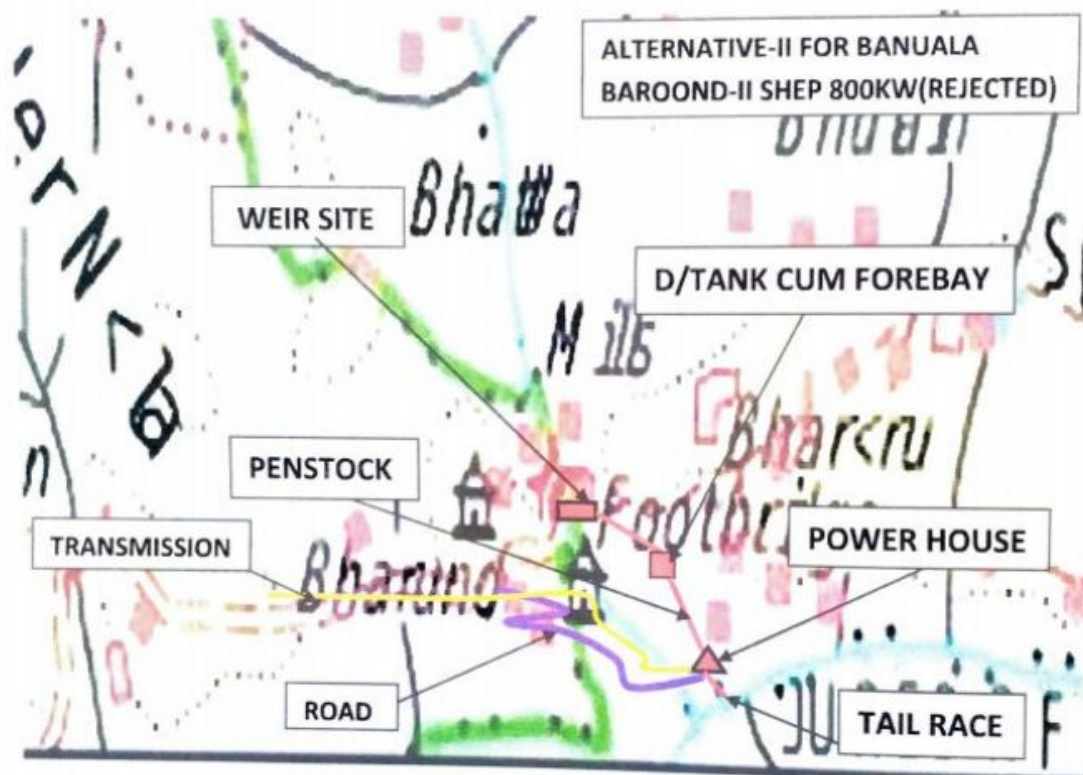
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Divisional Forest Officer
 Chamba Forest Division
 CHAMBA

BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)
TEHSIL CHURAH DISTRICT CHAMBA (H.P.)

SOI TOPO SHEET : 52D/5

ALTERNATIVE --II



FEATURES CONSIDERED	
AREA INVOLVED	0.6087 HA.
TREES INVOLVED	25 NO.

New Hydro Power
 Authorized Agency

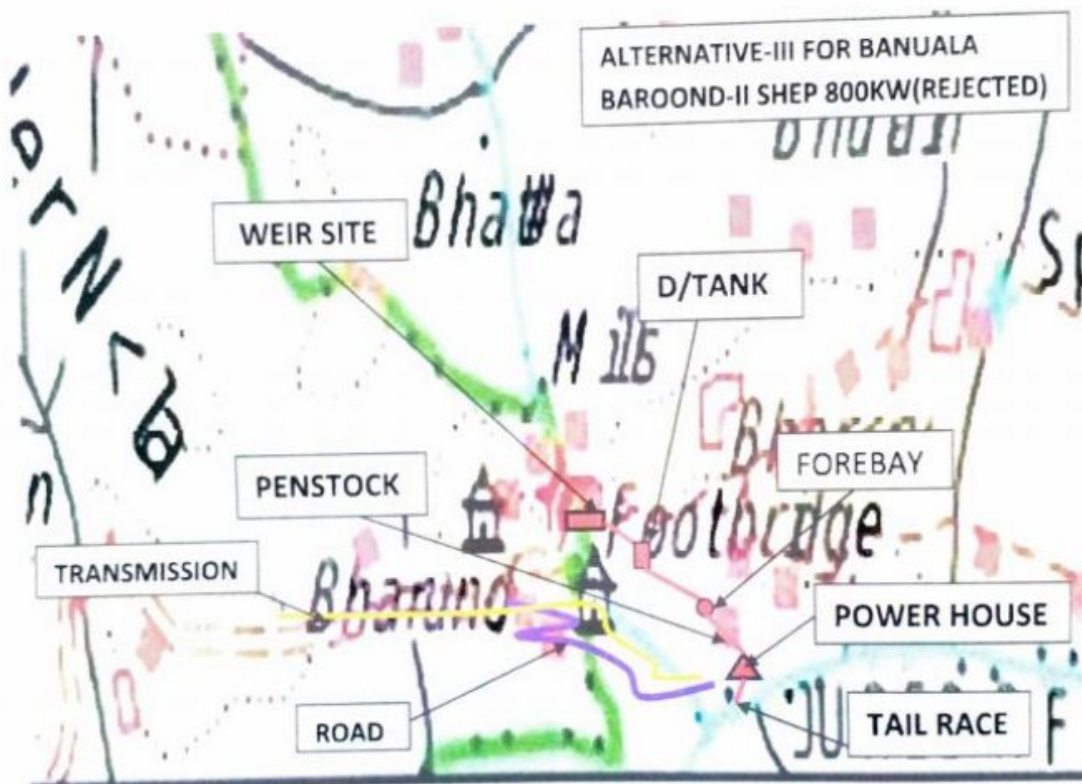
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Divisional Forest Office
 Chamba Forest Division
 CHAMBA

BANUALA BAROOND -II SMALL HYDRO PROJECT (0.80 MW)
TEHSIL CHURAH DISTRICT CHAMBA (H.P.)

SOI TOPO SHEET : 52D/5

ALTERNATIVE --III

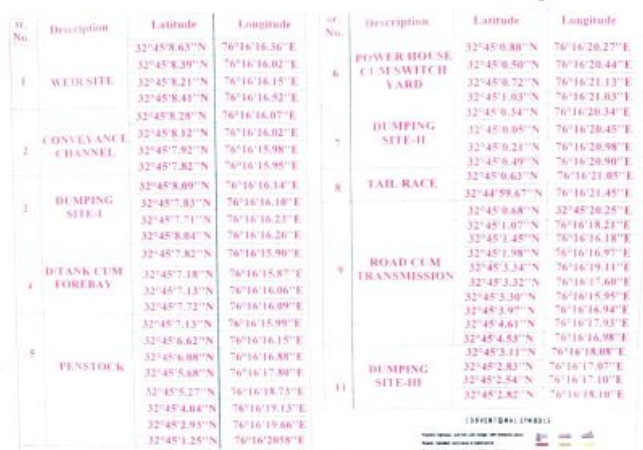


FEATURES CONSIDERED

AREA INVOLVED	0.7074 HA.
TREES INVOLVED	21 NO.

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Divisional Forest Office
 Chamba Forest Division
 CHAMBA



GEO-REFERENCE MAP ON SOI SHEET 52-D-5 (1:50,000)
FOR
0.6638 HECT. OF FOREST LAND TO BE DIVERTED
FOR
CONSTRUCTION OF BANUALA BAROOND-H SHEP(0.38MW)

<u>NAME OF APPLICANT:-</u>	NEW HYDEL POWER
<u>NAME OF FOREST DIVISION</u>	CHAMBA

NAME OF FOREST DIVISION CHAMBA

SOI SHEET NO. 52-0

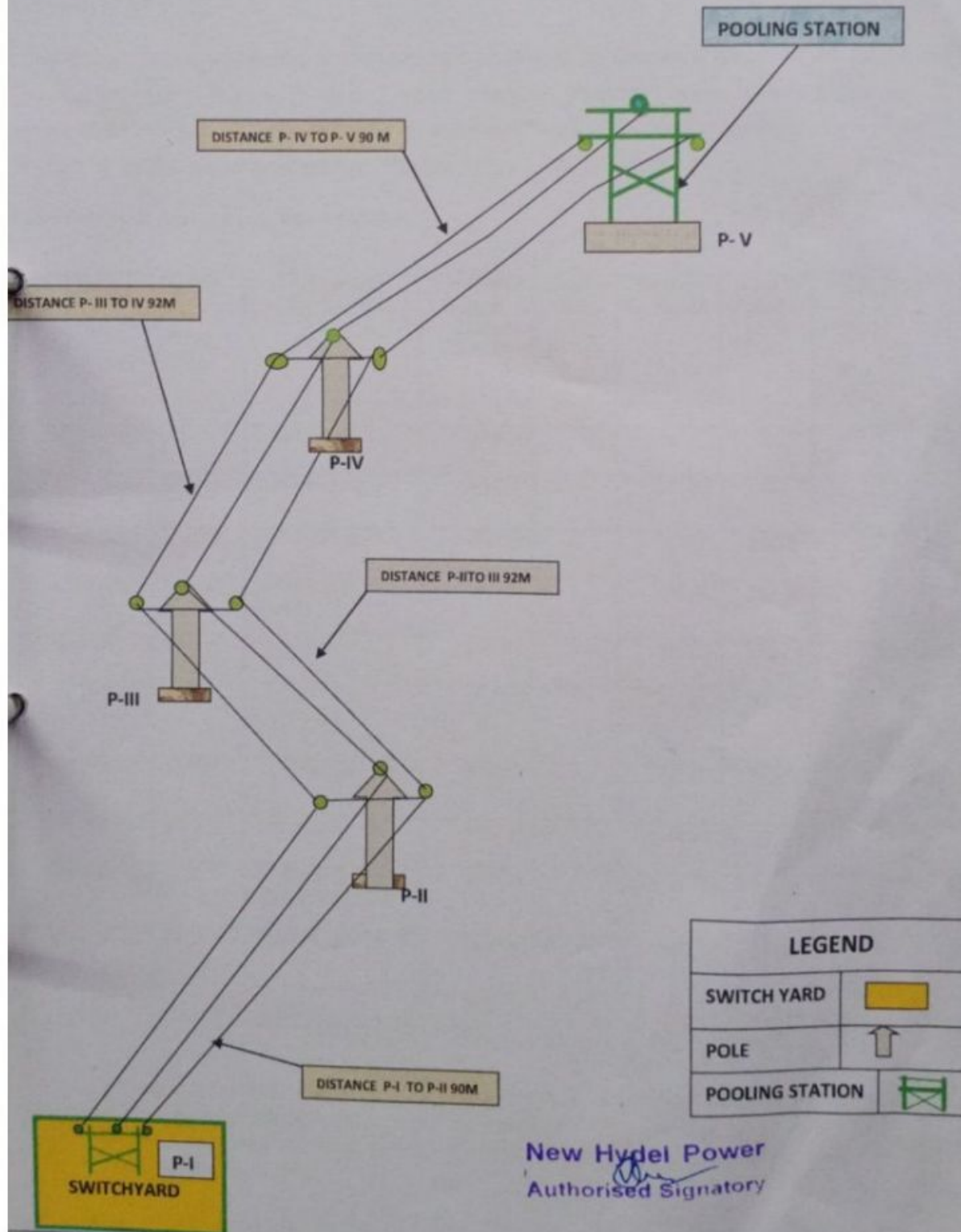
SOI SHEET NO. 81.0/5



New Hybrid Power
Authorized Dealer

Divisional Forest Officer
Chamba Forest Division
CHAMBA

EVACUATION PLAN OF BANUALA BAROOND -II SHEP 0.80MW





HIMACHAL PRADESH STATE ELECTRICITY BOARD LIMITED

Registered office
Number (CIN)
GST No.
Telephone No.
Website address
Email

(A Public Utility Undertaking)

Vidyut Bhawan, HPSEBL, Shimla-171004 (H.P.)
U40109HP2009SGC31255
HPSEBL 02 AACH4894EHZB
01899-222429 (Office, Fax)
www.hpscb.com
addiseebamba@gmail.com

No. 283481 A/2021-22

Dated: / 07 / 2021

To

The Superintending Engineer,
Operation Circle,
HPSEBL, Dalhousie.

Subject: Transmission system for evacuation of Power from Banuala-1 SHEP 2 MW and Banuala-2 D.S MW on 11 kV III Line.

Reference: Your office endorsement no. OCD/AE(W) 3/2019-20-12457 dated 14.02.2020.

Sir,

"Jai Hind",

Please refer to your office endst. No. vide which you have sought the feasibility of the transmission arrangement for Banuala-1 SHEP 2 MW. In this context, it is submitted that as per the intimation received from AE, ESD HPSEBL Tissa, the feasibility report for the said HEP is as follows:

1. The proposed project site is situated in electrical section Nakror under ESD Tissa. The whole area under this section is being fed by 11 kV Tikri feeder emanating from 33/11 kV sub-stn. The total length of the feeder is 86 km including the spur lines. 62 Nos. DTRs of different capacity are installed on the feeder supplying electricity to as many as 3000 consumers. The HT and LT network under this section is scattered and far flung.

2. Being a lengthy distribution feeder, frequent breakdowns/trippings occur on the line. Moreover, routine maintenance works carried out from time to time along with erection of new lines may lead to loss of generation thus causing financial loss to the HEP. Hence, power evacuation through 11 kV feeder will not be feasible. However, power evacuation through 33 kV line is feasible with following submission:

- Power can be evacuated on 11 kV by erecting 11 kV independent feeder from 33/11 kV sub-station Nakror to the power house site at the cost of IPP. Power can also be evacuated through 33 kV by erecting 33 kV line from power house site to 33/11 kV sub-station Nakror at the cost of IPP.
- For power to be evacuated through independent 33 kV or 11 kV feeder, extension of 33 kV Yard or 11 kV Yard will be required alongwith allied equipments which will be done at the cost of IPP. This is for your kind information and necessary action please.

Yours faithfully,

Sr. Executive Engineer,
Electrical Division, HPSEBL
Chamba.

New Hydel Power
Authorized Signatory