

DIVERSION OF 3.7463 HA.OF FORESTLAND FOR CONSTRUCTION OF GHATOR TOP
SMALLHYDRO PROJECT 4.98MW IN TEHSIL BHARMOUR, DISTRICT CHAMBA (H.P)
FILE NO .. : FP/HP/HYD/156608/2022
DATE OF PROOSAL :

ALTERNATE SITES CONSIDERED TO MINIMISE THE USE OF
FOREST LAND FOR CONSTRUCTION OF
GHATOR TOP (4.98MW) SMALL HYDRO ELECTRIC PROJECT

ALTERNATIVE-I

The proposed project is situated on the right bank of the Ghator stream. The alternative involves construction of diversion structure at EL \pm 2735 m on Ghator Nala. The water conductor shall consists feeder Channel length of 18m upto surface Desilting tank and water Conductor System in HRT on the right bank of Ghator Nala comprising of 741m length(hrt) upto shurge Tank . Penstock alignment runs through rocky slope. The gross head available for power generation shall be around 656.50 m. Surface powerhouse shall be located on the right bank of the Ghator Nala. There are small bends in Penstock alignment. No part of the Channel or other components lies in inhabitant area thus it will not have any other adverse environmental impact and large cutting of trees.

Feature considered:

- Alignment of the proposed project falls on right bank and along 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 57 trees in the all components alignment which are not to be cut.
- Forest land involved to the tune of 3.7463 Hectares.
- No disturbance to the stable slope & green cover.
- Limited number to trees to be cut off for execution of components of project.
- No Cultivated land and habitants.

ALTERNATIVE- II

This alternative involves construction of diversion structure on right bank of Ghator Nala at EL \pm 2735 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 4.5200 hectares and 65 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.
- Some of the alignment of Project components coming in cultivated land and habitant area.

ALTERNATIVE- III

This is mainly left bank alternative involves construction of diversion structure at EL \pm 2735 m on the Ghator Nala. Water of Ghator Nala shall be diverted through a 55 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 Ghator Nala. The gross head shall be about 640 m. The length of the road increases upto Power house which resulting 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.

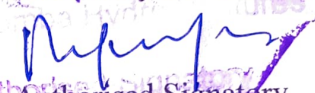
Features Considered:

- Entire alignment falls on left bank of Ghator Nala.
- Forest land involved to the tune of 4.1000 hectares and 70 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 Ghator Nala covering proposed Powerhouse and Penstock consist of loose strata which is vulnerable to landslides.
- Most of the alignment of Project components coming in cultivated land and habitant area.

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

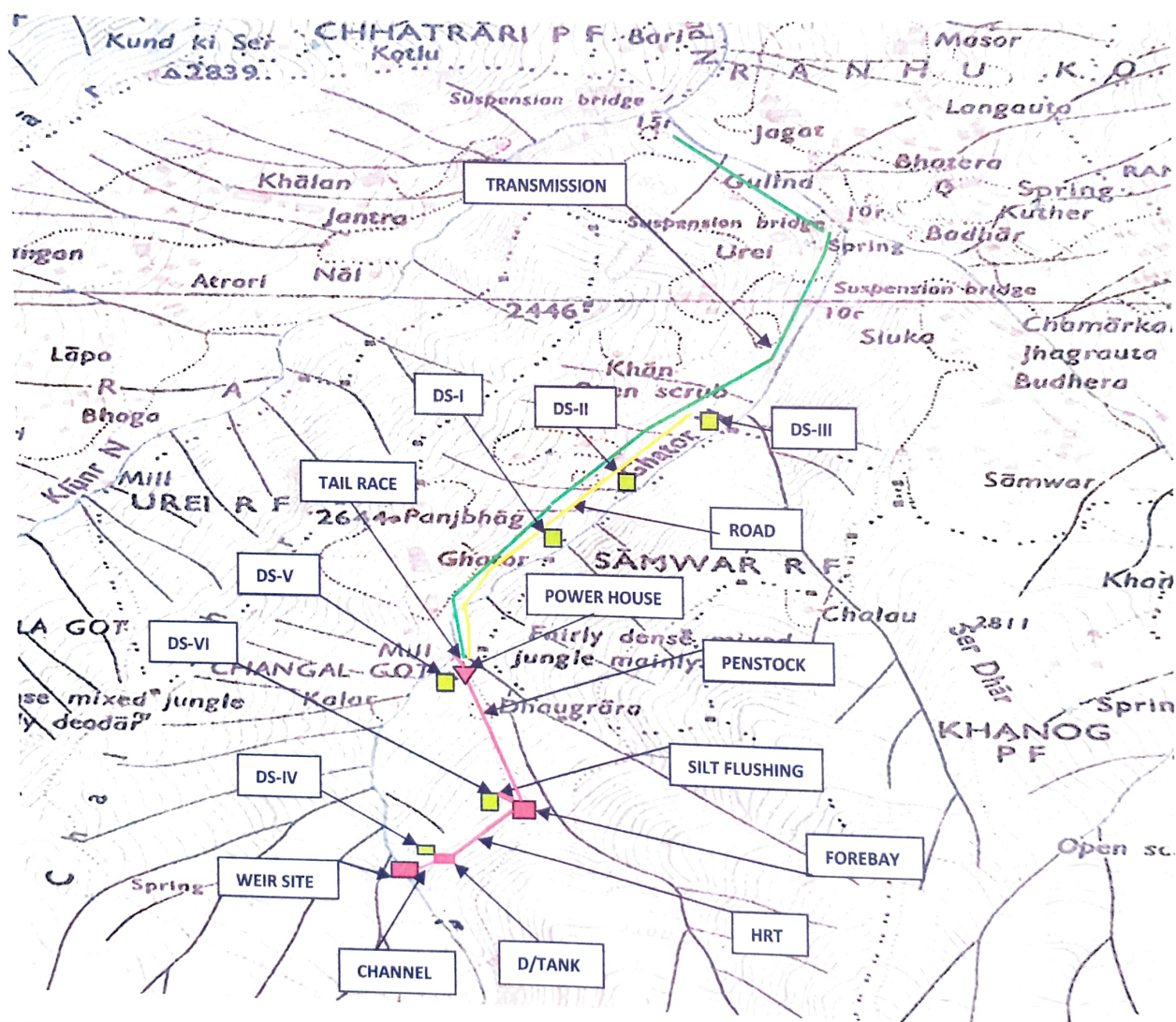
Date- 20/5/2022
Place- Bharmour

For Chamba Hydro Ventures


Authorised Signatory

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SOI TOPO SHEET : 52D/7



FEATURES CONSIDERED	
AREA INVOLVED	3.7463 HA.
TREES INVOLVED	57 NO.

Divisional Forest Officer
Bhamour Forest Division
Bhamour (H.P.)

Chamara Hydro Ventures
Authorized Signatory

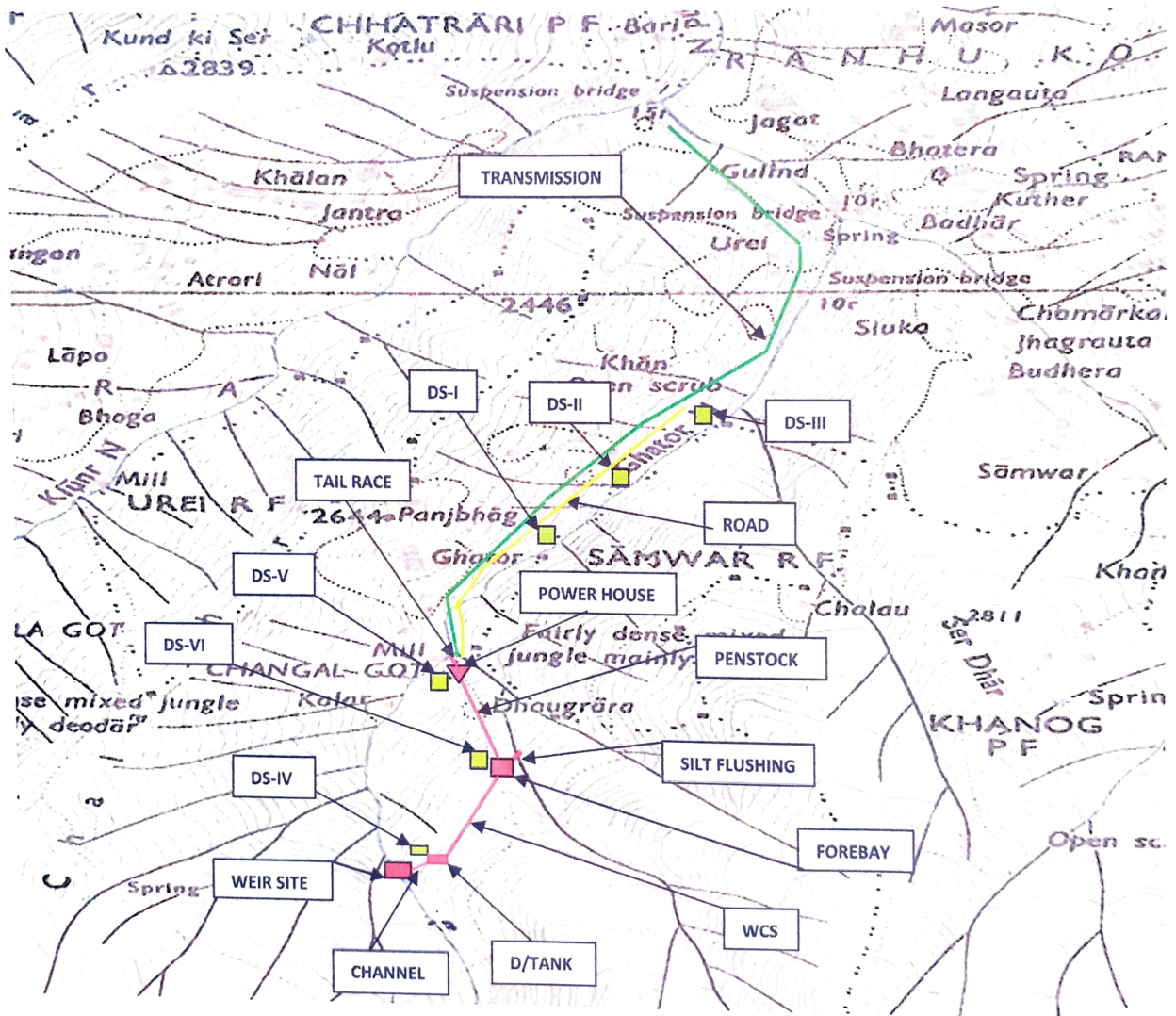
GHATOR TOP SMALL HYDRO PROJECT (4.98 MW)

TEHSIL BHARMOUR DISTRICT CHAMBA (H.P.)

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ALTERNATIVE -II

SOI TOPO SHEET : 52D/7



FEATURES CONSIDERED

AREA INVOLVED	3.7463 HA.
TREES INVOLVED	65 NO.

Chamba Hydro Ventures
[Signature]
 Authorised Signatory

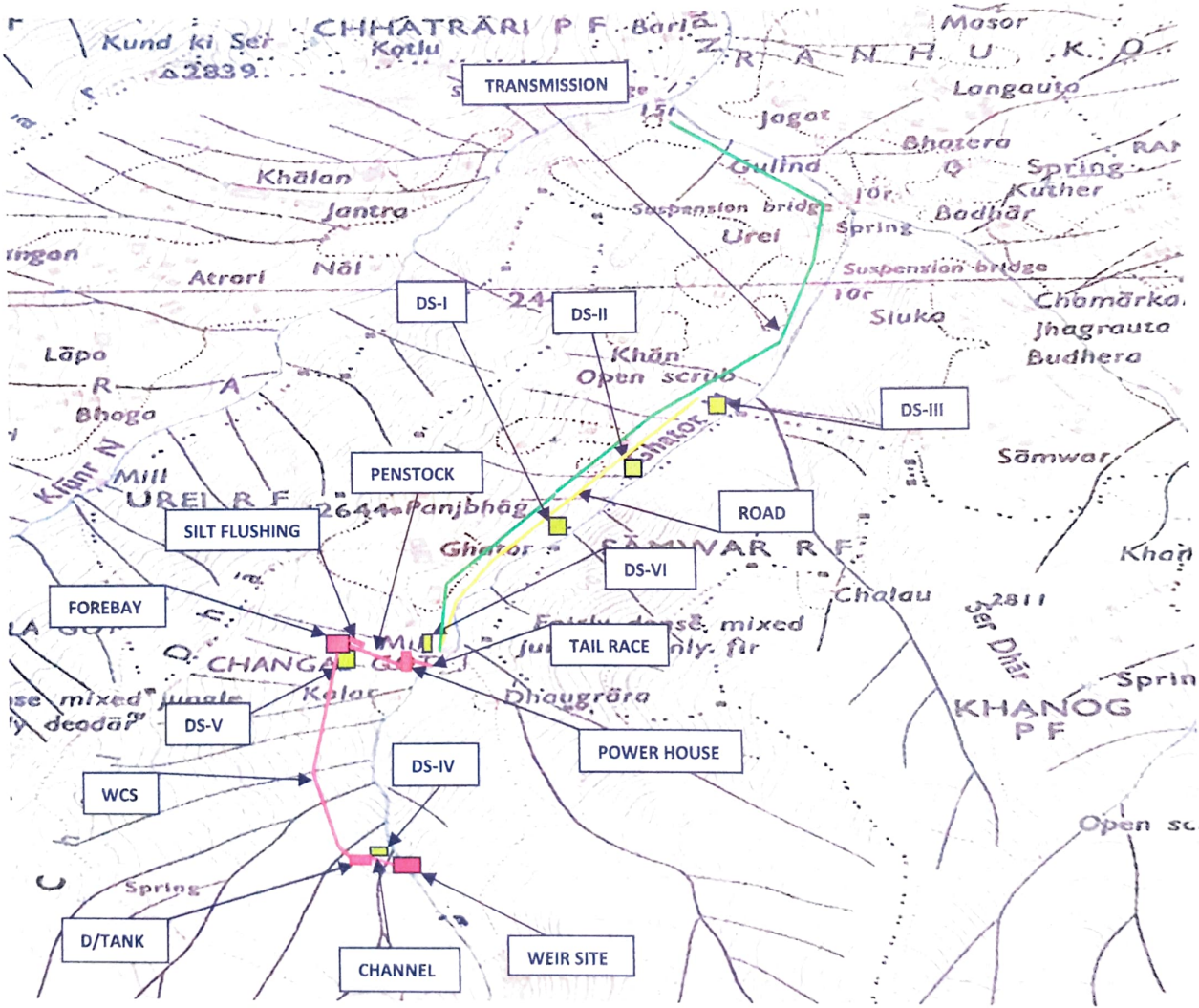
[Signature]
 Divisional Forest Officer
 Bharmour Forest Division
 Bharmour (H.P.)

GHATOR TOP SMALL HYDRO PROJECT (4.98 MW)
TEHSIL BHARMOUR DISTRICT CHAMBA (H.P.)

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ALTERNATIVE -III

SOI TOPO SHEET : 52D/7



FEATURES CONSIDERED

AREA INVOLVED	3.7463 HA.
TREES INVOLVED	70 NO.

[Signature]
Divisional Forest Officer
Bharmour Forest Division
Bharmour (H.P.)

Chamba Hydro Ventures
[Signature]
Authorized Signatory