

The features of promising potential sites for PSPP

Site Name		JN 5
Location (Name of River)		Upper dam/reservoir : Son La Province/Phu Yen Dostrict/Kim Bon Commune (Suoi On River) Lower dam/reservoir : Left Bank Son La Province/ Phu Yen Dostrict/ Sap Xa Commune Right Bank Son La Province/ Bac Yen Dostrict/ Hong Ngai Commune (Suoi Sap River)
Project Parameter	Installed Capacity P(MW) Design Discharge Qd(m ³ /s) Effective Head He(m) Peak Duration Time T(hrs)	1,000 220 570 7
Topography and Geology	(Overall geological condition)	- Mainly limestone such as Upper Devonian limestone (D2g-D3bc), Permian volcanics (P2-Tvn), Triassic limestone (T2lmt) occur around this area. - The bedding associated with the NW-SE system ranges, dips high angle to the north. - NW-SE system structural line passed 10km south of the surveyed area. Suoi Sap river was associated with this structure.
	(Upper dam/reservoir)	- An existing approach is there from route No.379 to Ban Pun village via Suoi Thunh village, which is un-paved and the length is about 16km. Since the road condition is quite bad, fundamental reform or alternative route design is necessary. And it is necessary to extend the approach road to the upper reservoir with its length is about 6km. -Base rock condition of the dam site is good enough for fill type dam construction. There is a waterfall at the dam site, which height is 3m, and out crop is tuff. -Since some of the valleys in the planned reservoir area are deep, the path length to the neighbor valley, which is located opposite mountainside, is short. Further geological and topographical survey is necessary. -Sub dam is necessary at the backend of the reservoir.
	(Waterway • Power Station)	- Location of the outlet will be selected in the area, which tuff / schist distributed in. -Approach route to the lower dam is only from the upstream. Therefore entrance of approach tunnel to the underground powerhouse and switch yard are necessary to locate besides the lower reservoir.
	(Lower dam/reservoir)	- Downstream of the lower dam site is Hoa Binh reservoir and no road are there nearby. It is necessary to plan approach road to the dam from upstream. -Planned dam site is the backend of Hoa Binh reservoir. When the water level is low, depth of the river is reduced to several meters. -Hard limestone outcrop is there at both side of the dam site. There are outcrops of tuff / schist distributed in the left bank of upstream of the dam site. -The site is available for concrete gravity type dam. -Further geological investigations such as condition of limestone are necessary to decide maximum dam height.
Natural and Social Environment	Natural Park / Protected Area	The project site and its surrounding areas are not in any existing or proposed protected area.
	Prosperous fauna / flora	The mountain slopes of the project site and its surrounding areas are heavily used by the local people, and small patches of forest are left around villages and as their small watersheds. Large mammals have been extinct by hunting pressure. It is assumed that no important flora exists.

	Minority	There are villages of Thai, Muong and Hmong ethnic groups, and it is expected that they will receive negative impacts. However, scales of the impacts are unknown. The agricultural land and pasture will be lost by the proposed upper reservoir.
	Resettlement / Compensatory assets	Resettlement and compensation will occur because of project activities such as expansion of an access road and construction of the reservoirs.
	Historical / Cultural Heritage	There is no historical / cultural site in and around the project site.
	Road / Traffic condition	There is no good road to the project site and it is necessary to construct new roads to the site.
Others' Special Note		Distance from Hoa Binh 500kv substation is about 80km.
Economic Value		680 mln US\$ (B/C=1.20)

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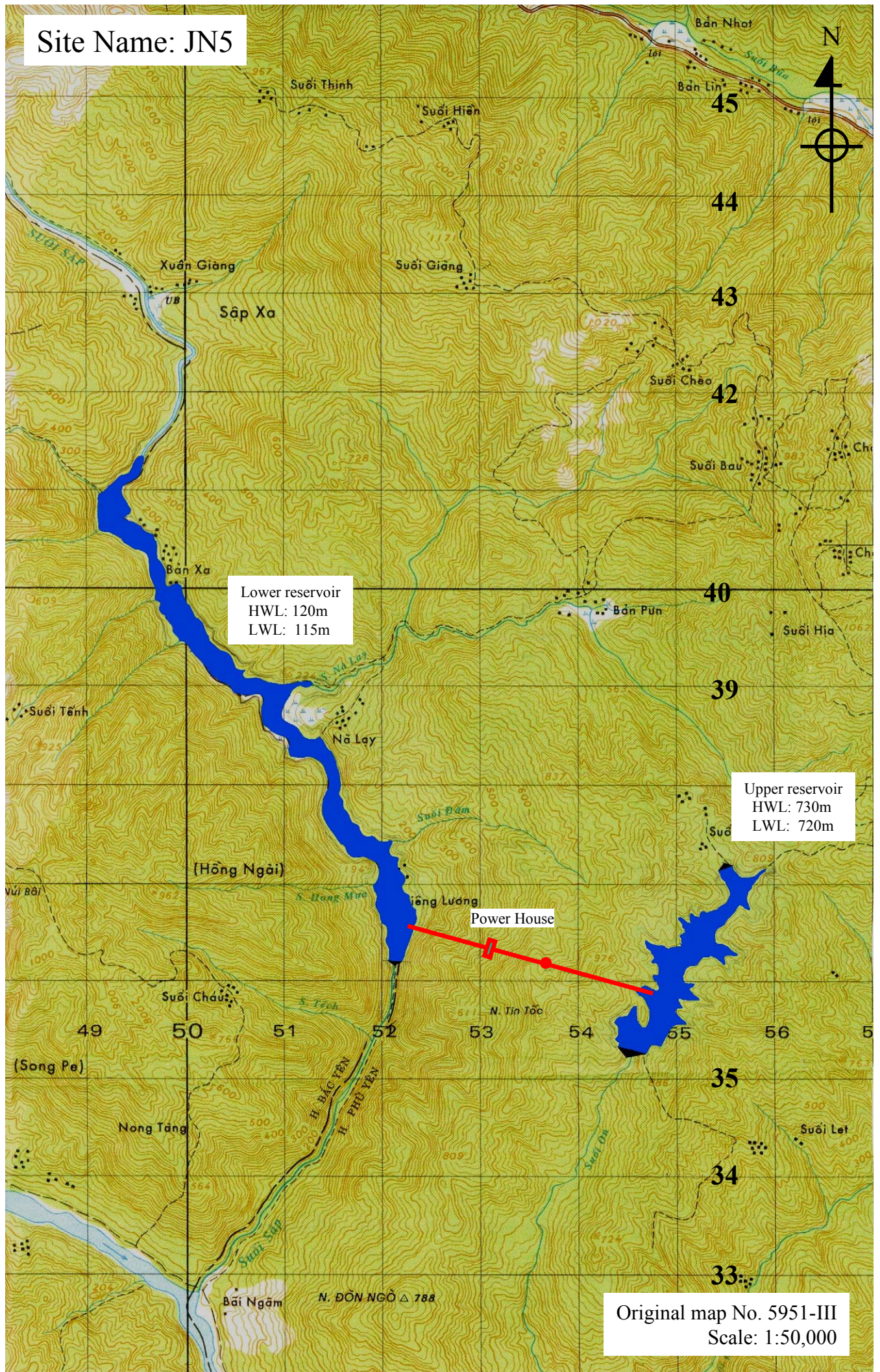




Photo 1

Base rock condition of the dam site is good enough for fill type dam.



Photo 2

There is a waterfall at the dam site, and outcrop is tuff.



Photo 3

Saddle dam is necessary at the backend of the reservoir.

JN5 – Upper Reservoir



Photo 4

Dam site at the tail of Hoa Binh reservoir
Lime stone are seen at both banks



Photo 5

Left bank with gentle slopes at the position of the planned outlet.



Photo 6

Right bank of the dam site looking from Muong Thai Commune

JN5 - Lower reservoir



Photo 7

There is a village of Dao ethnic group just upstream of the lower dam site. They have been heavily using the mountain slopes around the village for agriculture and there are very small patches of forests left.



Photo 8

There is a market place in the proposed lower reservoir. The market is held three times a month. Boats bring goods from the downstream and agricultural products to the downstream.



Photo 9

There are a couple of fishponds in the proposed upper reservoir.



Photo 10

There are rice fields and pastures in the proposed upper reservoir.