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"Lumberjack's Candle", Rovaniemi, Finland

Pont haubané à Rovaniemi, Finlande

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1. THE STRUCTURE OF THE BRIDGE

The "Lumberjack's Candle" ("Jätkän kynttilä") is the result of an idea competition. The competition was arranged whose purpose was to find a bridge which would further the image of Rovaniemi town. The bridge is an asymmetric, single pylon, twin column, cable-stayed bridge. The cablepairs are in one plane along the centreline of the bridge.

The bridge is 323,5 m long and its effective width is 25,5 m. The spans are: 12 + 41 + 42 + 126 + 42 + 42 m. Traffic is carried in four lanes and on both sides there are pedestrian and cycle lanes. The pylon rises 47 m above deck level and from it the steel cables which support the 126 m central span fan out in eight pairs. The backstay cables form a six pararrel cablepair bunch. The pylon column diameter is 2 x 2,3 m. The bridge is under construction and will be completed autumn 1989.

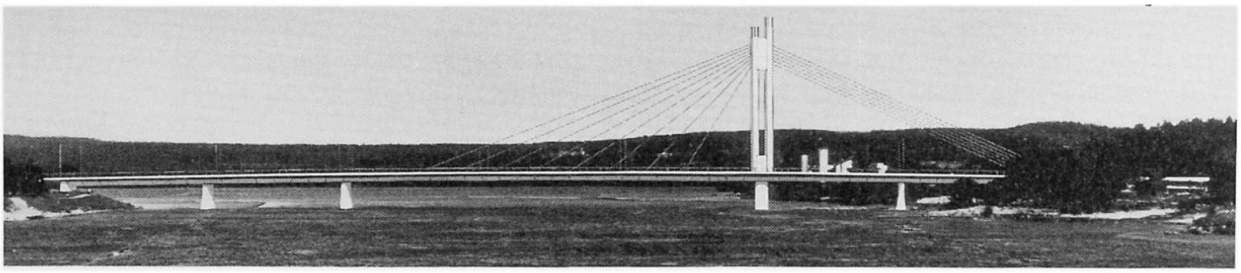

Fig. 1 Photo-montage of the bridge

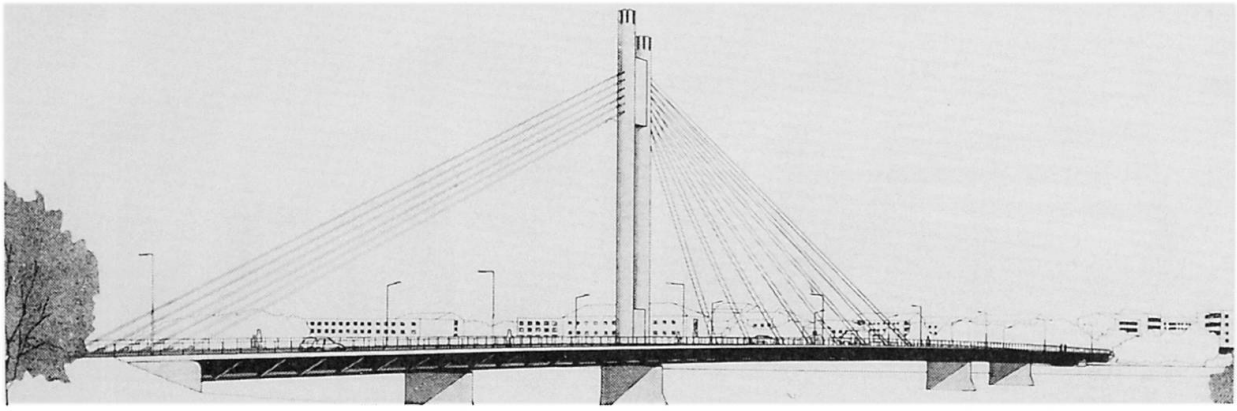

Fig. 2 Perspective view at the bridge

2. DECK STRUCTURE

The deck structure is of the box-beam type. The steel beams and concrete deck form a composite structure. The width of the steel structure is 8,8 m. The broad cantilevers of the deck slab are supported by struts outside the box.

The deck slab is cast onto the steel girders in 11,3 m wide sections and the composite structure develops as the casting proceeds.

The pylon goes through the deck. The backstay cables are anchored in the abutment on the rock bed. In the tender stage the use of concrete box girder constructed by launching was considered as an alternative. The price difference between the composite type was not significant.

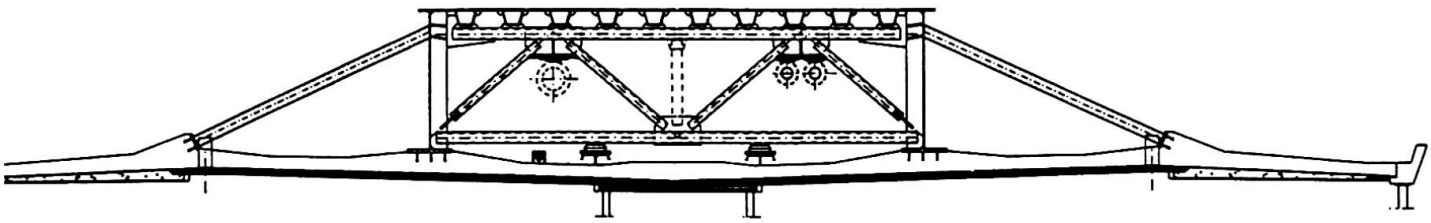

Fig. 3 Cross-sections of the superstructure

3. STAY CABLES

The stay cables are designed so that they can be easily adjusted and can also be changed.

The main span cable's active anchorage is in the head of the pylon and the back stay cable's in the abutment. In the head of the pylon there is a steel anchor chamber.

The strands of the cable are unbonded, individually coated. The strand bundles are contained in a PE-pipe which is then grouted. The exterior of the PE-pipe is covered with white tape and the cables are illuminated. The cables will be supplied by VSL.

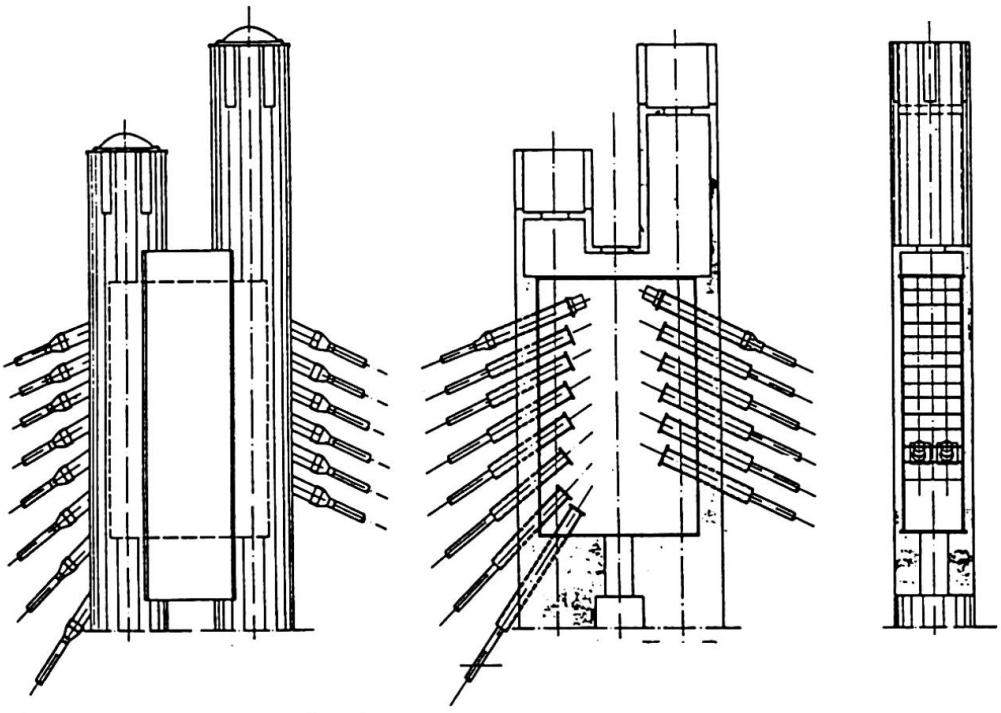

Fig. 4 The top of the pylon