



STATE ROAD 202, HARD - FUSSACH SECTION, RHINE BRIDGE

Client: Provincial Government of Vorarlberg
 Development Period: since 2013

THE PROJECT

Since the existing bridge, built in the year 1971, is in a deficient state, the typical cross section does not meet the actual traffic requirements and the discharge section of the Rhine river has to be increased, a new bridge is being built south of the existing one.

The structure of the 270 m long and 25 m wide bridge is carried out as a prestressed composite construction with two closed steel boxes and four spans. The span lengths are 50 m, 125 m, 50 m and 31 m.

OUR FUNCTION

For this project, BGG Consult has been commissioned with consulting in the field of geotechnics during all design stages and construction. Initially, subsoil explorations in form of core drillings, dynamic probings and cone penetration tests were planned, supervised and evaluated. Based on the results and on the findings of the soil mechanical laboratory analyses, a geotechnical expert's report has been prepared.

Subsequently, the construction tender was accompanied in the objective field with special attention to the deep foundations and the construction pit support measures.

Finally, the construction is supervised from a geotechnical perspective.

bearing capacity. For this reason, a deep foundation was inevitable from the beginning. In this connection it was important to spread the load over an area as wide as possible. Therefore, displacement piles (grouted ductile cast iron) are used, fanned out with growing depth. The piles hold diameters of 300 mm, a support link diameter of 170 mm and lengths between 15 m and 25 m. For the determination of the soil parameters and settlement values, a load test has been carried out for a pile group in preparation of the tender. This provided important input parameters for the calculations. Based on these, the expected settlements for the different construction phases were established.

Foundation by means of Micro Piles:

Along the whole bridge, cohesive-organic soil, sand and lacustrine sediments exist down to the maximal explored depth of 50 m. All of these soils hold a unfavourable or very unfavourable

Extract of the subsoil profile with delineation of the fanned out micro piles

