

N9 - Vennes Villeneuve Section PS RC 780 – Bridge at Villeneuve Motorway Junction New Frame Girder Bridge

Client

Federal Roads Office (ASTRA)
 Estavayer-le-Lac Branch

Consultant

IUB Engineering AG, Fribourg Branch (Resp.
 Engineering Structures) in consortium

Construction period

2011–2015

Construction costs

Bridge CHF 6.5 million

Scope of services

- Assessment of the existing bridge structure
- Study of alternative reinforcement measures
- Selection of a bridge replacement
- Design for construction
- Detailed design
- Tendering
- Execution project
- Construction management and supervision
- Site supervision

Description

The bridge at Villeneuve junction displayed large structural damage. The results of the structural examinations showed that the bridge had to be replaced.

Traffic was diverted via the cantonal road and a provisional bridge while a new frame girder bridge was erected above the A9 which was still open to traffic.

By partly using pre-fabricated components it was possible to reduce traffic disruption during construction works.

The monolithic structure (integral bridge) spans 36m over the motorway. Type C electrically insulated pre-stressing ensures the stability of the structure.

Main technical data

New bridge at motorway junction

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|--------------------------|---------------------|
| - Total length | 80 m |
| - Span of middle section | 36 m |
| - Width of bridge | 21 m |
| - Bridge surface area | 1700 m ² |



Demolition of existing bridge in two phases, diversion of traffic via cantonal road over provisional bridge



Installation of frame girder bridge – partly pre-fabricated



Completed structure after tightening of pre-stressed cables