

# A13 Roveredo bypass: new construction of San Fedele bypass tunnel

## Bauherr

Federal Roads Office FEDRO Bellinzona Branch

## Projektierung

Gähler+Partner AG, Ennetbaden and IM Maggia Engineering AG in engineering consortium

## Zeitraum

2007–2016

## Baukosten

CHF 160 Mio.

## Leistungen

- Data transfer, project optimisation
- Construction project with cost estimate
- Submission project / call for tenders
- Execution project
- Documentation of the executed work

## Beschreibung

The 2,391 m long San Fedele tunnel forms the core of the new, approximately 5.7 km long Roveredo bypass, which runs on the left side of the valley. It has a clearance of 7.75 x 4.5 m and a longitudinal gradient of 0.8 %. The excavation was carried out by expanding a mechanically driven pilot tunnel using blasting technology. At the north portal, which lies directly on the bank of the Moesa River, the tunnel tube, which was constructed in the open cut, was widened to accommodate the abutment of the adjacent bridge. The service building with electrical rooms, ventilation centre and exhaust chimney is located at the south portal, on the uphill side of the tunnel tube, and was built using the cut-and-cover method. On the valley side of the tunnel and parallel to it runs the safety tunnel, which was excavated with the same tunnel boring machine as the pilot tunnel. The cut-and-cover structures of the tunnel and the safety gallery were covered; in the north, a rockfall protection dam was also built.

## Hauptdaten

- Length: 2'391 m
- Cut-and-cover south / north: 108 / 58 m
- Loose material south / north: 90 / 50 m
- Rock section: 2085 m
- Excavation cross-section: 85-110 m<sup>2</sup>
- Double-sided open bays: 2 pcs.
- Alternating SOS niches: 19 pieces
- Hydrant niches on the uphill side: 17 pieces
- Cross connections: 7 pieces

