Uetliberg Molasse Section

**Object**
National highway tunnel, new construction

**Construction Costs**
Total costs Uetliberg tunnel: CHF 1’120 million

**Project Schedule**
Planning: since 1981  

**Project Description**
2-tube tunnel: each tube with 2 traffic lanes and one shoulder.  
Length Uetliberg MS: approx. 2’800 m  
Diameter: 14.20-14.40 m  
Cross section: approx. 160 m²  
Slope: 1.6 % (downward)

**Driving Method**
A tunnel boring machine (TBM, diameter 5 m) will be used to drive a pilot tunnel. Afterwards, a tunnel bore extender (TBE) will widen the tube to its full cross section.

**Geology**
Flat bedded strata of the upper fresh water molasse (alternation of hard sandstone seams and soft marl strata). Secondary, intermediate types of marl sandstone, hard siltstone and sandy marls.  
Max. overburden: approx. 320 m

**Construction Details**
- Excavation support pilot tunnel with GRP-bolts and steel-fibre reinforced shotcrete  
- Excavation support TBE with mesh-reinforced shotcrete, bolts and steel installation as necessary  
- Waterproofing with plastic membrane  
- Cast concrete final lining

**Our Services**
- Complete detail and construction design, tender documents of the underground works  
- On-site construction management for underground construction  
- Support project management of client

**Client**
Baudirektion des Kantons Zürich

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Tunnel bore extender  
Cutting diameter  
14.20 - 14.40

TBE drive with undercutting systems and installation of support in back up equipment (variable cutting diameter 14.20 to 14.40 m)

Standard cross section

Site plan

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**Perspectives Underground**

Amberg Consulting Engineers Ltd., Switzerland  
Phone: +41 1 870 91 11  
Telefax: +41 1 870 06 20  
E-Mail: amberg@amberg.ch  
Homepage: www.amberg.ch  
Branch offices in:  
Chur, Regensdorf, Sargans (Switzerland), Brno (Czech Republic)  
Representatives worldwide