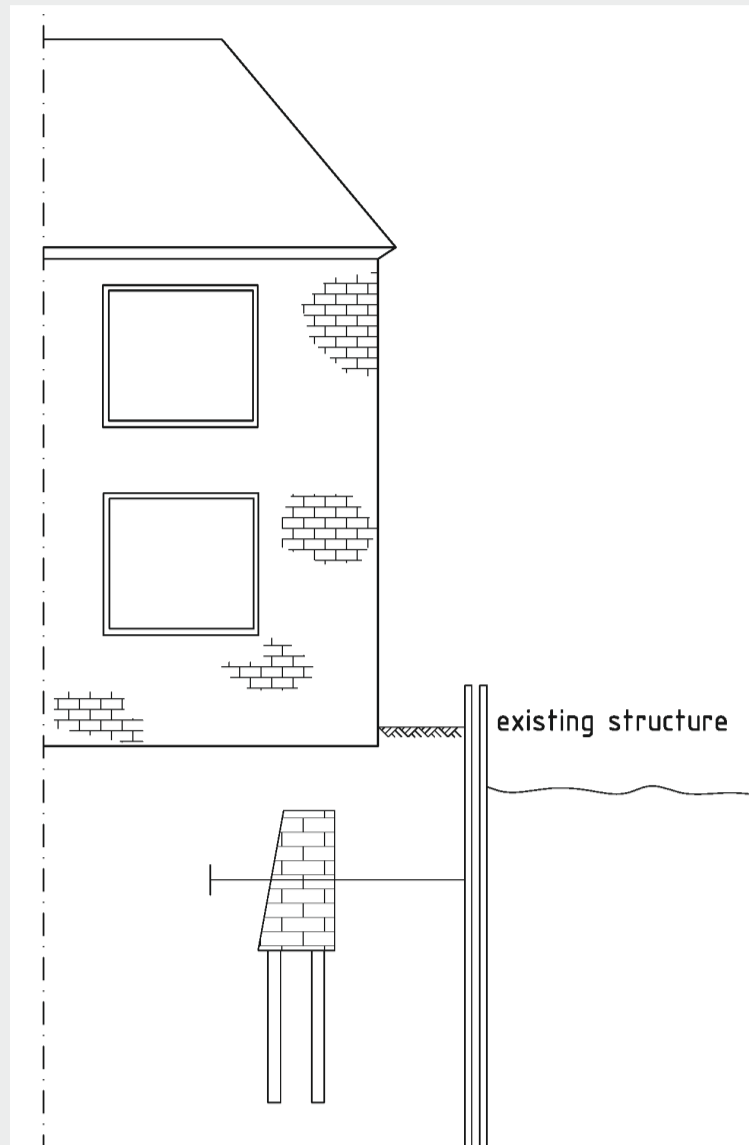


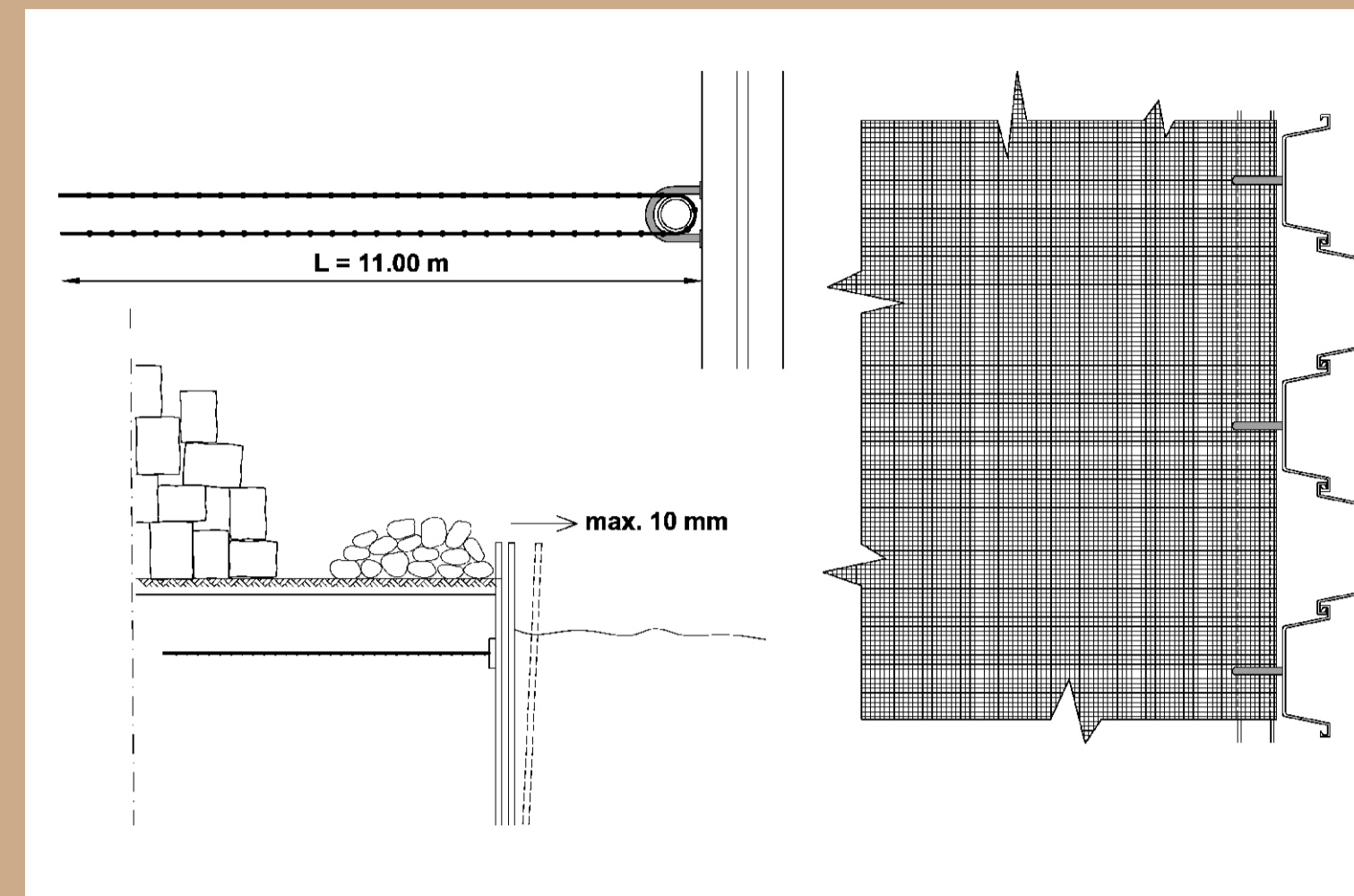
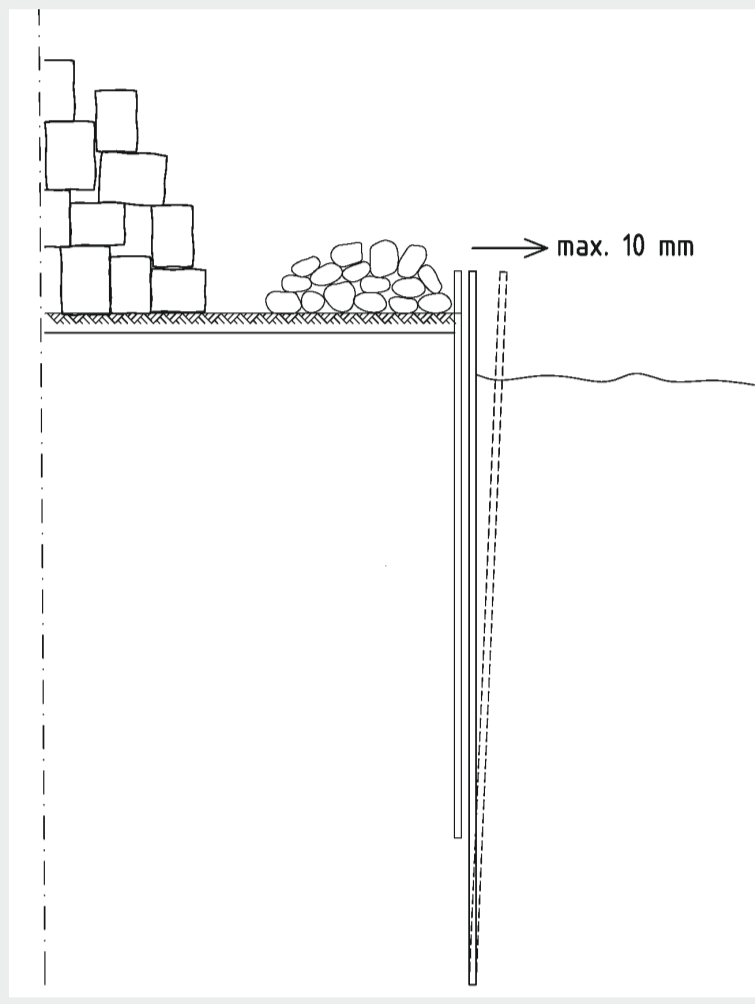
Flexible High Modulus Geogrids used as Tie-back Anchors for Retaining Structures

Oliver Detert, HUESKER, Germany; Edi Wehrli, Schoellkopf, Switzerland



In Amersfoort, Netherlands, a high modulus and flexible Fortrac® R 600/50-30 MP was used as temporary sheet pile wall anchoring. An existing building and old quay wall had to be demolished due to remodeling works. Before

the construction of a new building with basement started, the site had to be prepared so it could be used as storage area. The allowable deformation of the sheet pile wall was limited to 10 mm.



Fortrac® R 600/50-30 MP as temporary sheet pile anchor



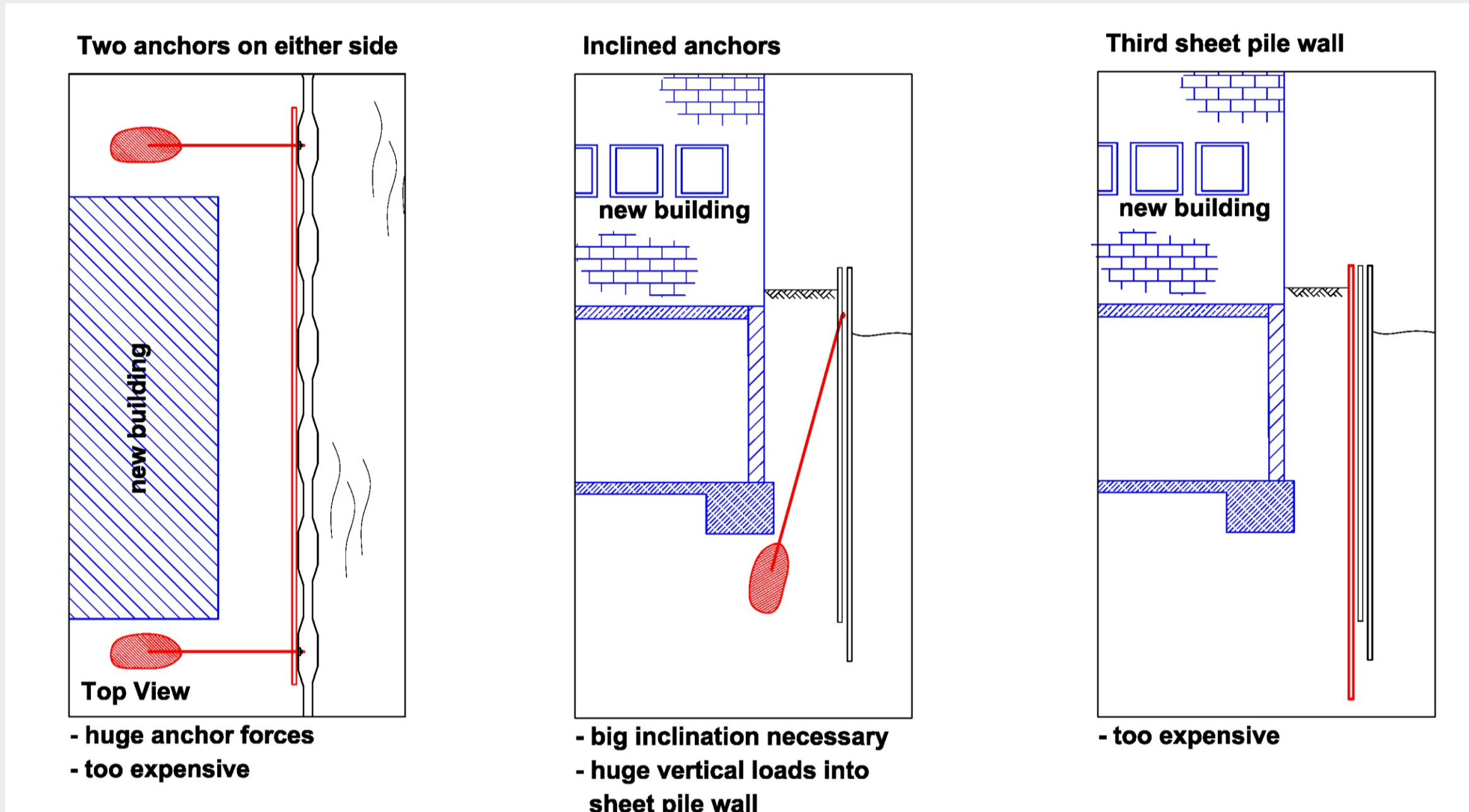
Connection detail between geogrid and sheet pile wall



Geogrid prestressing with the excavator shovel



Tensioned geogrid at the connection



Different permanent solutions were considered but no feasible one was found, therefore a temporary anchoring with a Fortrac® geogrid was developed.



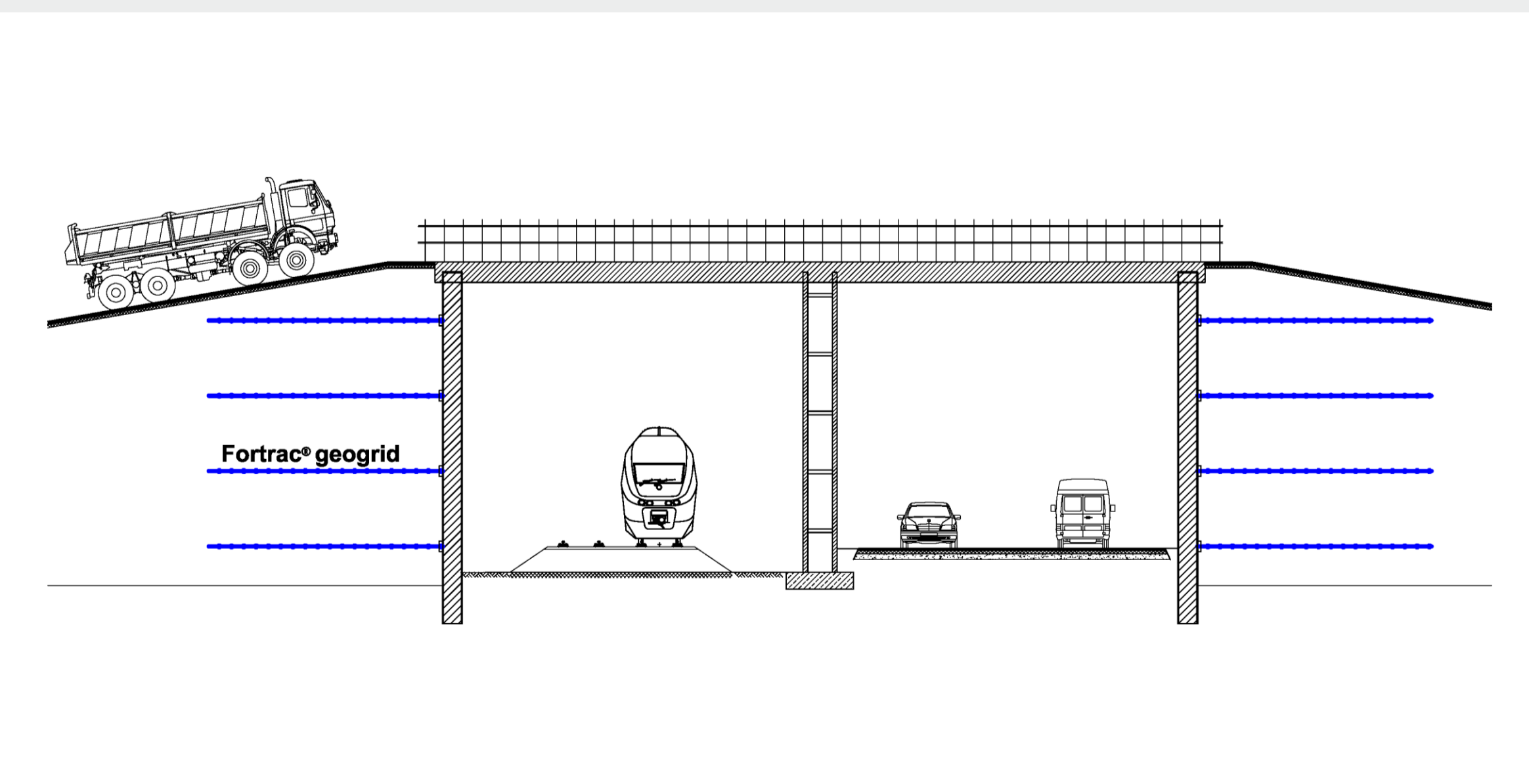
Backfill installation



Well tensioned geogrid along the sheet pile wall

Domat / Ems, Switzerland

A provisional construction road was required to set-up the building site of a large scale sawmill. For this road a temporary bridge had to be built in order to cross a railway and a road. The soldier beams of the bridge abutments were anchored with high strength Fortrac® geogrids.



A total amount of 600.000 m³ of excavated material was transported over the bridge by dump trucks with a gross weight of up to 74 t, which corresponds to approx. 40.000 vehicle crossing. The maximum measured displacement of each abutment was about 5 mm. The back anchoring of soldier beam walls supporting a bridge on top by four layers of geogrid was a real novelty in Switzerland with great success.



Placing of the geogrids



Installation of soil



Finished bridge under traffic

