

The Association has Corporate members as well as individual members.

The Bulgarian Association for Geotechnical and Tunnel Construction has the Conference Coastal Projects in Varna, and in June 2012, the International Conference Railway Projects 2012, Sofia.

The main goal of the technical committee is to approve the objective assessment and the adoption of the best waterproofing systems, ensuring safe operation and project life of underground reinforced concrete structures for a period of 100-120 years.

Sofia Metro Extension



During the last year in Bulgaria the most intensive and most interesting is tunnel construction in Sofia. One of the main reasons for that is the Sofia Metro extension including completion of the main construction works of the second metro diameter and extension of the first one where currently all the known tunneling technologies are applied. Construction works in all the sections were carried out under specific conditions like existing structures, heavy traffic, low overburden, etc. These conditions impose individual approach to be applied when defining the final technical solutions for tunnel construction in every particular case.

According to the Short-term program for the development of the metro lines (Fig. 1, after Sofia Metropolitan JSC), the main results, achieved in 2012 are as follows:

Stage I

The section included in Stage I has 6.4 km length including seven stations. It was completed in September 2012. Completed underground structures are: double-track tunnel 2.8 km long with a diameter 9.43 m, carried out by TBM; single-track and doubletrack tunnels with total length 0.8 km, constructed by cut-cover method; doubletrack tunnel 8.5 m wide and 0.9 km long, constructed by NATM (SEM); 1.9 km long section constructed by cut-cover method; six metro-stations constructed by cut-cover method and one station having crosssectional area 259 square meters was driven by SEM (Fig. 2). Instead of backfilling underground parking spaces are provided just above three of stations. Number of passengers after the completion of the section is 340 thousand/day. Share of the metro in the system of Public Transport after the launching of the section - 26 %.

Stage II - Lot 1



The section included in Stage II - Lot 1 has 4.15 km length. It was put into operation in September 2012. Completed underground structures are, as follows: double-track tunnels 2.6 km of which were carried out by cut-cover method and 0.2 km - by NATM (SEM). Three underground stations, constructed by cut-cover method were included in this section. Two underground parking spaces are provided above the tunnels. Number of passengers after the completion of the section is about 360 Short-Term Scheme for Sofia Metro thousand/day.

Stage II - Lot 2

The total length of section included in Stage II - Lot 2 is 2.2 km. It was put into

operation in May 2012. Completed underground structures are, as follows: double-track tunnels 1.4 km constructed by cut-cover method; double-track tunnel 0.4 km – by NATM (SEM); two single-track tunnels 0.4 km each – by NATM (Fig. 3); two underground metro-stations constructed by cut-cover method; underground parking area with a capacity of 1500 vehicles constructed by cutcover method and located just beside Station 19.

New stage started in 2012

Extension of the First Metrodiameter - Stage "Station 19 – Sofia Airport", which has 5 km length and four metro-stations, is under construction now. The construction of this stage started in October 2012. There is foreseen to be carried out the following underground structures: 0.2 km double-track tunnel by NATM (SEM), 3.0 km double-track tunnels and three metrostations by cut-cover method.

Forthcoming development of Sofia Metro Lines including underground construction. The following activities have already done for section "Station Mladost 1 – Station 16": prepared Technical Design, evaluation of the environmental impact, approved Regulation Plan. Construction works will start in April 2013. The section is about 2.5 km long. It consists of 3 metrostations and double-track metrotunnels which will be constructed by cut-cover method. The alignment of the third metro-diameter was approved in 2011. Its total length is 15.5 km of which about 8.5 km are planned to be underground structures. Conceptual Design is under consideration now. Tender procedures for Contractors will be initiated after completion and submission and approval of the conceptual design.

Struma motorway

One of the major projects in Bulgaria during the next 3-4 years will be Lot 3 – part of Struma motorway, including Kresna Gorge. Two very long dual-lane tunnels 13 km each one are planned to be built. The geological explorations carried out in 2011. Concept, Preliminary and Reference design have to be prepared till the beginning of 2014. Additionally, two shorter tunnels 2.5 km long are included in this Lot.