

# THE EXTENSION OF SITARSKA STREET OVER THE RAILWAY TRACKS

## BIALYSTOK, PODLACHIA, POLAND

### Vertical Walls with Concrete Facing Panels

#### Problem

Extension of Sitarska street was a part of the project „Improvement Białystok’s transport accessibility”. The scope of the project was to extend Sitarska Street over the railway tracks and connect two residential areas separated by railway tracks. The reconstruction of Sitarska Street was challenging for designers because of various factors. The planned job site was located in an urban area. According to the plans, the embankments with vertical walls has to be done in limited space. The limited space required very careful planning of construction technology. The client set a very short time to finish the realization of all works related to the construction of the retaining wall. An additional difficulty was that all works must be done with the active railway line. There was no possibility of stopping rail traffic.

#### Solution

The MacRes system with concrete facing was proposed as a technology for retaining wall because of the space limitations and fast installation. The MacRes system is much quicker to install compared to the retaining walls with facing made of small-sized blocks or classical wrap-around embankment.

The MacRes is a System to create vertical soil reinforcement structures with a concrete facing that is resistant to high loads. The ParaWeb polymer strip linear reinforcement is placed every 0.75 cm between compacted layers which are ensuring the stability of the construction.

Maccaferri has proposed an innovative solution consisting of installing the retaining wall simultaneously with the concrete bridge abutment. The idea was to leave the expansion joint which allows correction of potential imperfection resulting from installation. This solution permits save time and space on the job site area. The supplied facing panels and geosynthetic reinforcement was stored on previously completed parts of the MacRes reinforced soil and then immediately installed.

Maccaferri construction meets not only the technical requirements. The MacRes System has a high aesthetically pleasant look of facing panels. This pleasing eye construction affects the satisfaction of people who are passing through Sitarska Street.

**Client:** Miasto Białystok

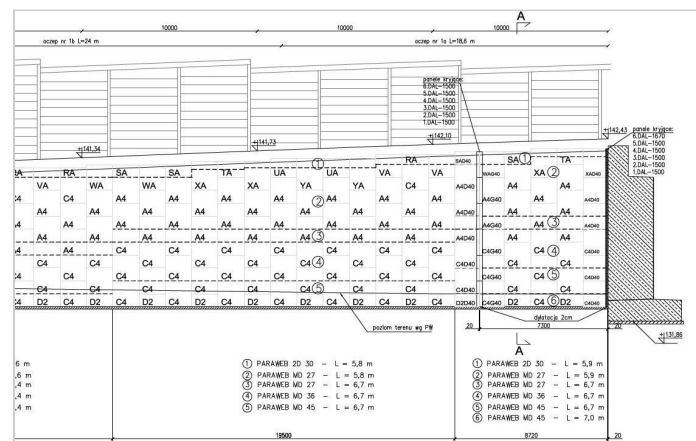
**Designer / Consultant:** Maccaferri

**Contractor:** Strabag

**Products used (Qty.)**

- MacRes 4000 m<sup>2</sup>

**Date of construction:** 05/2017 - 07/2018



The front view of designed MacRes wall



The jobsite was located in city center (close to the buildings)





The abutments and MacRes walls were making simultaneously



The buildings are located in close neighbourhood



The panels were stored on previously completed MacRes Wall



The visualisation of Sitarska Street



The MacRes construction has high aesthetically pleasant look