

Project Case Studies

Project Profile

Date: 2012
Name: Wyndham Bridge & Street Reconstruction
Owner: City Guelph/CN Rail
Engineer: AMEC
Contractor: Dagmar Construction Inc.
Size: Approximately 600 m² face area



Background and Challenges

The aging and deteriorating conditions of the existing retaining walls, partially supporting the CN Rail bridge and the buildings along Wyndham street, Guelph, have reached the point in 2011 that the City decided to replace these dilapidated walls with new MSE wall systems to provide a safer grade separation, a widened road and a pedestrian access to and from the buildings above.

The proposed new retaining walls are located at a very congested downtown area in Guelph, Ontario with limited construction/excavation space due to the presence of historic building structures and live train operations in the vicinity along with constraints of property boundaries. The new retaining walls were also required to accommodate features including staircases, special handrails, unique texture pattern with intricate geometries up to 7m high. These conditions and requirements imposed a series of challenges to the MSE wall design, fabrication and construction.

Solution

Terrafix, worked with the Engineer/Contractor, successfully addressed all the challenges by designing and providing 5 customized TerraFort walls with complex geometries and dimensions suit to the actual site conditions and blended into the surrounding environment.

Advantages

The special configuration of the full height panels provided much flexibility without compromising structure robustness in the designing and construction to tailor the site conditions such as turns, sloping ground and undulated alignments etc. The unique TerraFort structure also allowed Terrafix to address unexpected site conditions during the construction including site adjusting panel geometry to overcome obstructions encountered, thus maintained the contractor's installation schedule in tight construction space.



The specially designed TerraFort coping also enabled the contractor to save time and cost with an easy handrail installation. The project was completed as scheduled and within the planned budget.