

Wall Stabilization Walmart



► **FORCINE**

Forcine Concrete

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❖ Failing MSE wall

25 years ago, Walmart's distribution center used segmental block MSE to retain a 50-foot tall 25,000 SF soil embankment for the construction of a large parking lot. Over time, freeze thaw combined with a failure of the drainage layer caused distress to the wall, creating the risk of failure or collapse. There were significant access challenges for this project as well as harsh weather conditions due to its location in the Adirondack Mountains and contract delays that pushed the work deeper into the cold months.

Problem



Soil nails and plates installed through initial shotcrete face

2-layer shotcrete

We installed a two-layer reinforced shotcrete wall with T40/20 hollow bars in an 8' x 10' grid. We tension tested the nails to 92,000 lbs and drilled them through the initial shotcrete layer before installing a final layer over top of the nails.

Solution



By proving concrete temperature behavior, we showed that the shotcrete complied with the provisions of ACI 306-16: cold weather concreting.



The only access to the wall face

Solution

Results

5

MONTHS TIME SAVED

upon completion

\$200,000

COST SAVINGS

in general conditions

This project was safely finished approximately 5 months early. Walmart's main priority with this job was a fast completion, so they requested an as-shot finish. We agreed with their logic, which allowed job completion before winter.

