

CASE STUDY:

City of Durham Fire Station #1

LOCATION: DURHAM, NC



SITUATION:

Two sets of concrete steps outside the City of Durham's Fire Station #1 were significantly deteriorated and were ponding water and ice, causing slip and trip hazards. The concrete was cracked, chunks of concrete were broken and/or missing and the treads were separating from the steps. Tearing out and replacing the steps would be costly, disruptive and time-consuming.

 Total Area: 705 sq. ft.

 Concrete Repairs and Restoration



SOLUTION:

Simon Surfaces first removed the remaining treads and filled in the areas with its self-manufactured epoxy mortar, which was also used to repair the areas of broken/missing concrete. The ponding areas received additional material to create a slope to drain water and eliminate ponding. They filled the cracks with SR Polyurea, a flexible epoxy material. Finally, the stairs were coated with two layers of epoxy and slip-resistant material was applied to the entire stairway. The entire process took just two days to complete and the stairs could experience foot traffic after 24 hours. A concrete tear-out and replacement would have taken up to a week from start to finish, and would have had a 14-21 day cure time following completion.

UPDATE:

Two years after the restoration, Simon Surfaces returned for an inspection and the steps were still in great condition.

END RESULT:

- All trip and slip hazards resolved
- Ponding water eliminated
- Significantly less cost and disruption compared to tear-out and replacement
- Quick process and return to service (3 days vs. 30 days of tear-out/replacement)

