

C.D. HOWE

MECHANICAL ROOM UPGRADES

JOB DETAILS:

MARKET:

Architectural/Commercial

PRODUCT:

CarboComp Plus

AREA:

Mechanical Room

DATE:

February 2021

LOCATION:

Ottawa, Ontario

MATERIAL QUANTITY:

Approx. 54 Metres



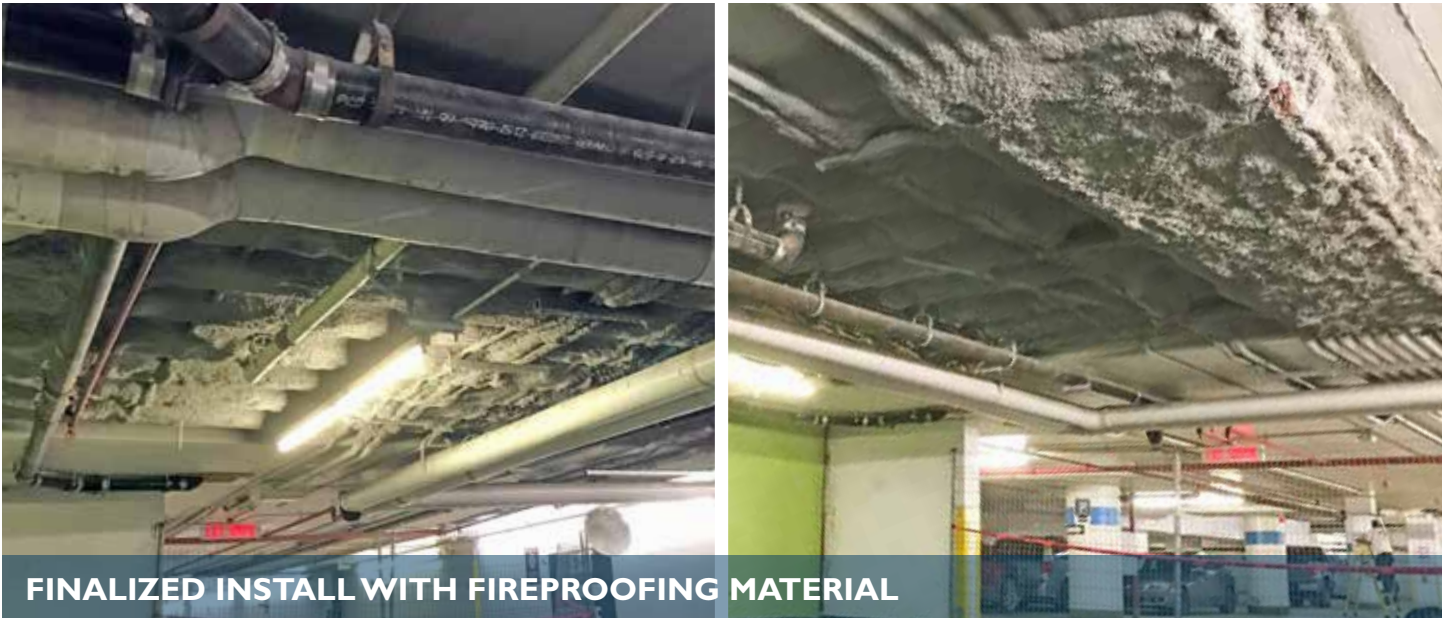
Carbon Fibre helps achieve low carbon emission goals in the National Capital Region's buildings. The Energy Services Acquisition Program (ESAP) is designed to modernize the system that heats 80 buildings and cools 67 federal and non-federal buildings in Ottawa's National Capital Region. This program is designed to help the Government of Canada meet its goal of reducing greenhouse gas emissions in its own operations by 40% by 2030.

One such property is the 11 storey C.D. Howe Building built in 1978, located at the intersection of Bank Street & Sparks Street which houses the Office of the Auditor General, and Innovation, Science and Economic Development for Canada.

THE CHALLENGE

The ESAP upgrade in this particular building required the addition of a new mechanical room to house equipment, which was located in the basement parking level of the building. This increased loading with extra walls and equipment pads meant that the concrete reinforced floor slabs required localised strengthening work to ensure this added loading could be carried safely.

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Unfortunately, the underside of the floor slabs in this particular location intersected with a conduit run for this, and adjacent buildings, including services that are almost impossible to interrupt such as fibre optic cables. Ed Burnett, the General Contractor for this project, required a solution to structurally upgrade the floors within the very limited space created by dropping the conduits as low as possible in their hangers.

THE SOLUTION

Stonhard Construction Solutions and their approved installation team at Aries Contracting were able to design a solution using CarboComp Plus, a Multi Directional Carbon Fibre Laminate that allows designers to use mechanical end restraint for the carbon fibre strengthening systems. When using more conventional uni-directional laminates, an overly long design is used to anchor the ends of the laminates, however in this case the combination of a drop panel and conduit location made this impossible to accommodate.

A total of 8 Carbon Fibre Laminates (approximately 54 metres total) were used with 16 Hilti Anchors providing the end restraint where the conduit run was located. The final installation was thermally protected with a layer of fireproofing material.

For further information on Stonhard and our Construction Solutions including Carbon Fibre Strengthening, please contact your local Stonhard Territory Manager or reach out to us via our website.