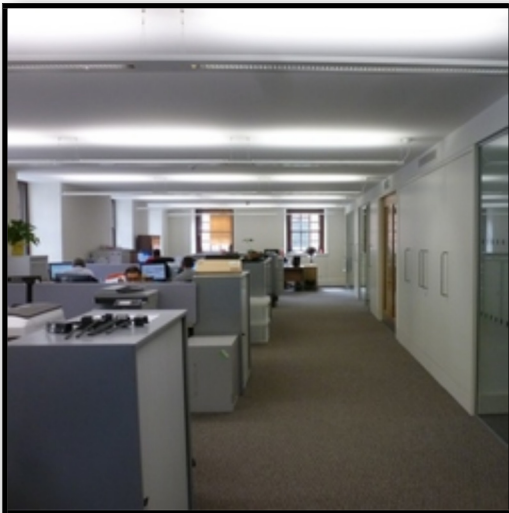The exterior of the Chapter House, showing the restored roof

Office space in the Chapter House

HISTORIC PROJECT
ST PAUL'S CATHEDRAL CHAPTER HOUSE
London
CLIENT:
THE DEAN AND CHAPTER
ARCHITECT:
PURCELL
COST:
£3,200,000

Chapter House

The Chapter House at St Paul's Cathedral was built by Christopher Wren in the 18th century, extended upwards in the 19th century, bombed during World War II, and rebuilt on the inside afterwards. A recent refurbishment has provided much needed administration space as well as refurbished the more formal meeting rooms. The Victorian mansard roof, lost in the war, was carefully restored to create an additional floor behind the roof parapet.

Carbon Emissions

As much as possible has been done during the latest refurbishment to reduce carbon emissions from the Grade II* listed building. High performance double glazing and roof insulation were included to minimise energy use.

Ground Source Heat Pumps

Ground source heat pumps provide heating or cooling as needed. Use of the ground improves the efficiency of the heat pumps and means there is no need for obtrusive external plant. Vertical loops were placed in boreholes drilled through the floor of the masonry workshops which lie below ground between the Cathedral and the Chapter House. This avoided disturbing important archaeological layers elsewhere around the Cathedral.

The performance of the ground source can be continuously monitored to optimise the heat stored and extracted in the ground. Heat from the computer servers can be used to heat hot water in the Chapter House or stored for use in winter.

Services Integration

Energy in the used air extracted from the building is used in the heat recovery ventilation to treat incoming fresh air. Ductwork is integrated into the replacement chimney stacks above the new roof. Fan coil units are concealed within the timberwork of the historic Chapter Room. Full Ethernet cabling threaded through the building uses a fibre optic backbone from the server room in the adjacent Works Department.