Kemnay Church Project

Overview

In 2008 Kemnay Parish Church embarked on a project to change the interior of the building to create a more welcoming entrance, a flexible seating arrangement, a fellowship area with a small servery, a new heating system, a new lighting arrangement and a fully integrated PA/AV system incorporating an interface with the praise band. The organ has been retained with a complete overhaul.

The outcome was well received by the congregation and it appears that our goals were achieved.

For other churches embarking on a similar project we would be happy to provide a complete overview of the work we undertook but two key areas stand out, namely heating and lighting.

The following is a brief description of what was done at Kemnay.

Heating System.

Prior to the interior alterations the heating system was all electric with tubular heaters under the pews and on window sills.

The choice of new heating system focussed on gas as opposed to solid fuel (wood pellet) since the latter was impractical due to space for both boiler and fuel storage.

Achieving good heat distribution is the big issue. Since the decision to remove pews, and have flexible seating arrangements, under-floor heating was considered. Such a system needs to be operated continuously and would require a major rework of the floor. With that in mind, and since the kirk is used solely for worship, weddings and funerals (the Church Centre covers all other activities), an alternative had to be found.

Rather than resorting to conventional wall or skirting radiators a recessed duct system with finned ‘coils’ was selected. The ducts were sunk into the floor around the main sanctuary. The two galleries were fitted with conventional radiators.

To improve the performance of the duct system low voltage cylindrical fans were fitted in the ducts adjacent to each heating coil.

The system is fired by a 30kw condensing boiler with booster pumps at strategic points.

The system works but its effectiveness is readily influenced by drafts and cold air rushing in at floor level when outside doors are opened at the start and end of services.

Depending on the time of year and ambient temperatures the system is fired up four to eight hours before the first service.

Lighting

The church was previously illuminated by traditional multi-globe chandeliers covering the main sanctuary galleries and chancel.

The proposed lighting scheme was to combine effective up-lighting and down-lighting to create a more aesthetic effect. The original scheme as put forward by the architect proved impractical resulting in a lot of last minute decision making during the build phase.

That said the result was very effective with contemporary pendant fittings illuminating the main sanctuary and gallery, and recessed spotlights in the entrance, fellowship area and side gallery. The chancel is illuminated with high level floodlights.

In addition, concealed fluorescent strip lighting was installed to create an up-light effect to highlight the attractive features of the timber roof.

All the main lighting fittings incorporate long life CFL lamps in an attempt to be reasonably energy efficient.

The lighting system is controlled via a number separate circuits from two locations, one being at the PA/AV desk in the main gallery.

Conclusions Lessons Learned

In selecting a heating system the use of the building and its various spaces need to be considered i.e. in use throughout the week or purely for services?

Heating an old building with a high roof space is a major challenge. The roof in Kemnay Kirk is an architectural feature. It was replaced in 1929 and provides a limited barrier to heat loss. Retaining the fine features of the kirk, the roof and impressive windows, has no doubt compromised the performance of the heating system in the dead of winter.

Carrying out detailed heating calculations for various options taking account of unavoidable heat loss areas is paramount.

Choosing a lighting system that compliments the interior as well as being functional is another challenge. Getting the right supplier on board with the capability to carry out accurate lighting calculations is important. The system in Kemnay Kirk has turned out well but with changes being made late in the day there was a little concern about how successful it would turn out.

Being able to embark on a project with the right balance between aesthetics, practicality and eco friendliness is the real challenge.

Frazer Simpson
for Kemnay Parish Church of Scotland
Scottish Charity No. SC014790
www.kemnay.kirk.org.uk