



Contractor
Balfour Beatty

Location:
Dundee, Scotland



Products Used:



Soundex®
Noise control



Dustex®
Dust control

Specialist dust and noise control solutions kept Ninewells Hospital staff and patients safe whilst refurbishment and extension building work was carried out.

Project Overview

The NHS Tayside Ninewells Hospital is based on the western edge of Dundee, Scotland. The major 862 bed capacity hospital also has both a medical school, and the nursing school of the University of Dundee on site.

The hospital has one of the world's leading leukemia research units, and is internationally recognised for introducing laparoscopic surgery to the UK.

The hospital was due to undergo extension and refurbishment works at multiple areas and wards within the building, whilst the rest of the hospital remained live, including operating theatres.

Challenge

Leading UK contractor Balfour Beatty was tasked with carrying out the works, and the team had to plan carefully how to navigate working inside the live hospital environment. Balfour Beatty's top priority was protecting its workers, patients and hospital staff from the potential health hazards that could arise as the project progressed.

Balfour Beatty identified that with the scope of works planned, and the equipment that would be used, that noise and dust could be a serious health hazard and would therefore require control measures.

Stopping airborne hazards from migrating into the live hospital was a high priority, because inhalation of hazardous airborne contaminants could be life threatening, especially within the operating theatres and other sensitive environments within the building.

Contractors working within a live hospital environment need to prevent dust from migrating outside of the work area in order to protect vulnerable patients.

Silica dust, mould spores and other contaminants can become airborne during demolition, construction and refurbishment works. It's therefore vital the work area is fully sealed and a suitable extraction system is put in place.

RVT's Soundex® range offer specialist noise control and monitoring solutions reducing noise by up to 39.2dB, ensuring minimal disturbance for patients and hospital staff.

RVT's Dustex® range offers both extraction and containment units. For this project our Raptor HEPA-Filter unit, B1 vacuum and Aire guardian were used, all supporting with capturing, containing and controlling the airborne hazards on site.

Solution

To truly understand the specific site challenges, one of RVT's experienced technical consultants performed several site visits and delivered a CPD-style best practice presentation to Balfour Beatty's project team and the representatives from the NHS Tayside Capital Projects team. Product demonstrations of RVT's specialist dust control solutions also took place, which allowed the site operatives to try the products for themselves, giving confidence in the kit's ability to meet the sensitive requirements of the project. Throughout the various phases of work, RVT supplied a range of products that effectively protected people and the environment from noise pollution and airborne hazards.

A Soundex® Cutting Enclosure with internal lighting, a cutting deck and a dust extraction vent reduced noise from site activities, including cold cutting steel and timber cutting, by up to 33.6 dB. Soundex® Acoustic Curtains were also installed in front of windows and around the walls of the work area to reduce the noise further.

RVT's DUSTEX® Aire Guardian was installed to completely seal off the work area. It has an exhaust vent which allowed a powerful DUSTEX® Raptor dust extraction unit to be connected. By working together, these solutions contained the work area and created a negative pressure airlock, which ensured that site activities could take place with the confidence that there would be zero dust migration outside of the work area. An M Class DUSTEX® B1 Vacuum with floor bar attachment was also used by the site team to collect any settled dust and debris throughout the project.

By hiring RVT's solutions, Balfour Beatty successfully completed this project safely, and without major disruption to the hospital.



Soundex® Cutting Enclosure



Dustex® Aire Guardian



Dustex® Raptor



Soundex® Acoustic Curtains



Dustex® B1 Vacuum