



# CONTEC - MANUFACTURING AND DISTRIBUTION CENTRE



**Client:**

**Contec Cleanroom (UK) Ltd**

**Project Value:**

**£8 million**

**Project Details:**

A bespoke 60,000ft<sup>2</sup> facility for the manufacture and distribution of contamination control products.

To satisfy the post COVID increase in demand for contamination control products, the UK division of South Carolina based Contec Inc identified a need for increased cleanroom, logistics and administration space. Assisted by Advance Northumberland, a site close to their current facility was secured that could accommodate the manufacture and distribution of sterile and non-sterile biocide products used in the pharmaceutical industry.

Portland was involved from the project inception and worked closely with the Architect, Mechanical Plant Designer, Client, Cleanroom Designer, DSEAR Assessor and Contractor to devise a structurally efficient design that could accommodate the cleanroom requirements particularly, those related to movement and vibration from the extensive mechanical equipment required to service the clean environment. Due to our early involvement, extensive SUDS features were also incorporated into the site layout without compromising the efficiency of the site.

The main building was split into three discrete zones; office area, logistics area and manufacturing area and three structural approaches were applied:

**Office area** – a wide, clear span floor plate was devised that omitted columns and therefore allowed full flexibility in the office layout.

**Logistics area** – columns were minimised using a ridge truss that maximised flexibility for racking layouts and trucking aisles.

**Manufacturing area** – due to the cleanroom manufacturing environment it was necessary to consider the movement of the building frame in relation to the walk-on ceilings of the clean rooms that were suspended from the roof. Various structural options were investigated to ensure a cost-effective structural design was achieved, these included long span trusses and independent internal frames. A detailed deflection profile analysis was undertaken on the steel frame which allowed ceiling and plant support hangers to be placed in strategic locations that were less susceptible to movement of the frame induced by wind or snow.

Externally, there was a requirement for a bunded tank farm with containment pad and a chemical storage building. These elements were subject to a DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) assessment and required bunds with the detailed consideration of drainage etc to ensure that mixing of incompatible chemicals didn't occur.

SUDS features were incorporated into the site layout including a detention basin positioned in a sterile area of the site and a bioretention strip designed to be an economical linear arrangement to maximise that part of the site for the service yard and external marshalling areas.

