

Case Study: Orthotics and Dental Lab Refurbishment

Case Study: NHS Healthcare






Client: Warden Construction

Sector: Healthcare

Completed: June 2024

Budget: £103,000

Services Used

-  Project management
-  System Design
-  Electrical Engineering
-  Mechanical Engineering
-  HVAC

Complete M&E refurbishment providing a new Orthotics and Dental lab facility at Stepping Hill Hospital.

Site:

The existing Orthotics and Dental facility at Stepping Hill Hospital required more space than its existing position. A new facility was to be provided by refurbishing a redundant office block. This space required total refurbishment to create the new up-to-date Orthotics and Dental lab.

Contract Arrangements:

The contract was a Measured Term Contract (MTC) where we have worked alongside Warden Construction for many years at Stepping Hill Hospital.

HVAC and Roof Works:

The refurbishment required a heating supply, extraction and ventilation. We designed the system, supplied and installed the works. A Dalkin Vamm heat recovery unit was sited outside the block, and extensive ductwork was installed on the roof of the building.



Mechanical Scope of Works:

Install New Point-of-Use Water Heaters

- Supply and install high-efficiency 'point-of-use' water heaters, ensuring compliance with safety standards and optimal positioning for immediate hot water access.
- Thoroughly test each unit to ensure consistent temperature control and functionality.

Install New Sanitaryware and Accessories

- Supply and install new wash hand basins, ensuring they meet hygiene and durability standards for high-traffic areas.
- Provide and install Doc-M packs, ensuring compliance with accessibility regulations, including handrails, contrasting colours, and user-friendly fixtures.

Install New Supply and Extract Heat Recovery System

- Install an energy-efficient heat recovery ventilation (HRV) system for balanced air exchange, optimizing temperature and humidity control.
- Include supply and extract ductwork with acoustic treatment where necessary, ensuring minimal sound disruption.

Install Mechanical Supplies for Dental Equipment

- Install and configure mechanical provisions for dental equipment, including compressed air, water, and waste management systems.
- Ensure adherence to infection control and sterilization requirements, with precise positioning for easy access and maintenance.



Electrical Scope of Works:

- Alterations of existing redundant electrical services
- Containment and wireways for LV and ELV cabling
- New Sub-main from substation and section board housed externally in a weatherproof housing
- Distribution Board complete with PON RCBOs, MCBs and Meterpack
- Small power and supplies to mechanical services
- Data installations and wireless access points
- Intruder alarm system
- Fire alarm installation
- Internal lighting
- Emergency Lighting
- Earthing and Bonding
- Testing and commissioning
- External Lighting



Project Challenges:

The refurbishment required a new submain feed, so an 11kV supply was taken from Substation 6; this had to be achieved with very minimal downtime, as the hospital mortuary used the same supply. The underground supply was also prone to flooding, which required careful electrical and remedial works.

The Results:

The completed project was very well received by the department, giving them new and extended facilities to carry out their work. The Trust was also very pleased with the results.



Project feedback:



“I was impressed with the quality of work and attention to detail that MeelGroup delivered. Their experience and knowledge with technical equipment installations was impressive.”

Michael Simpson BSc (Hons) Dip Des Inn
Capital Projects Manager

