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Ysgol Ifor Bach Primary School

Caerphilly County Borough Council

 Client: Ysgol Ifor Bach Primary School


 Sector: Education


 Location: Abertridwr, Caerphilly, South Wales


The Brief


Elite Systems was awarded this contract through a competitive tender process to design and build a modular nursery for Ysgol Ifor Bach Primary School in Abertridwr, Caerphilly, South Wales. The project required a customised solution to support the school's expansion while ensuring minimal disruption to daily activities.

The building was constructed using five modules, each measuring 10.2 x 3.3 meters, resulting in a total floor area of 168.3 m². This tailored solution was made possible through our bespoke design approach, allowing us to create a structure that precisely met the project's requirements.

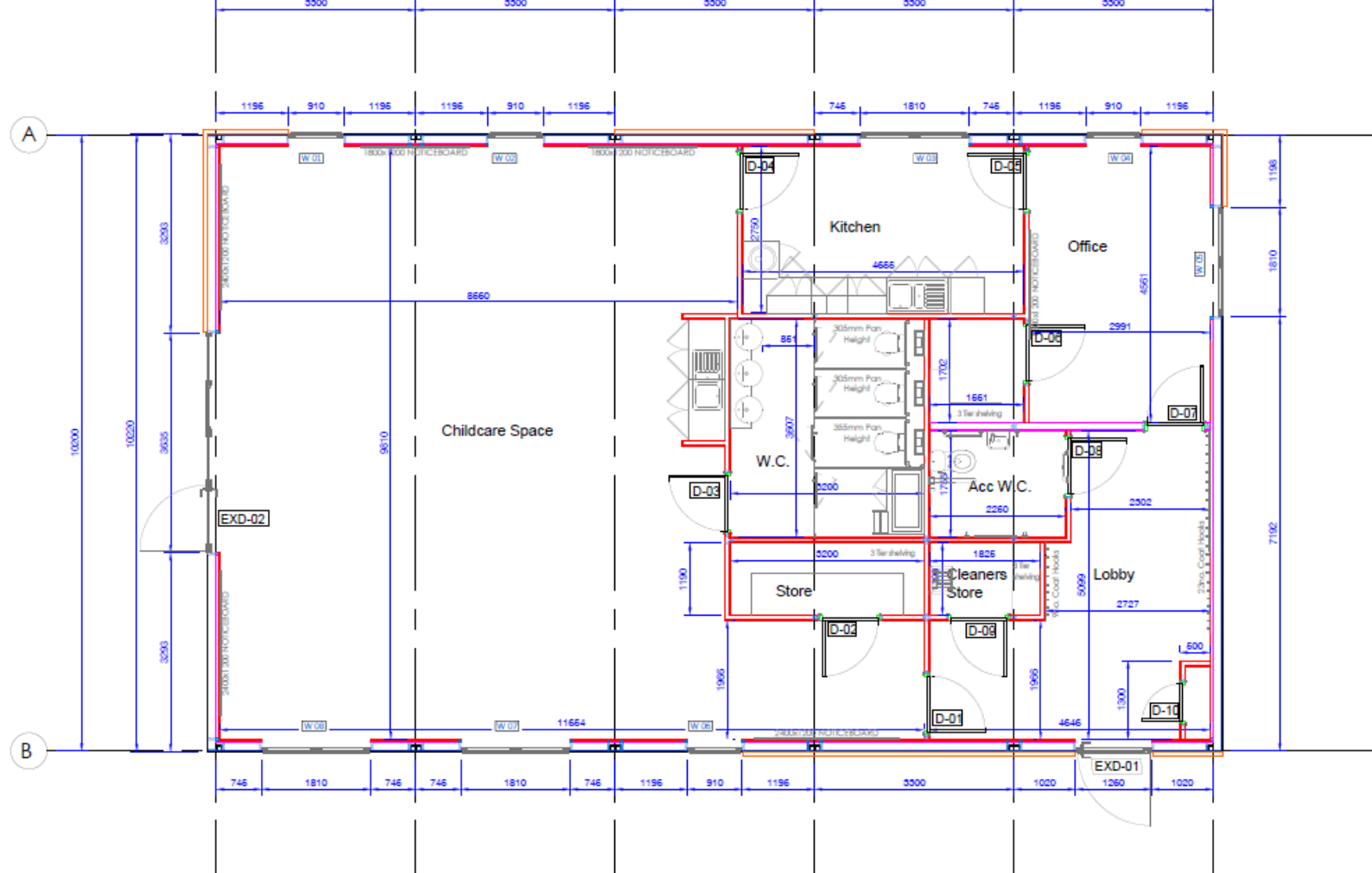
 **Project:** Nursery expansion

 **Location:** Ysgol Ifor Bach Primary School in Abertridwr, Caerphilly, South Wales.

 **Timeline:** The modules were installed and made weatherproof within one week. Additional time was allocated for utility connections, interior fit-out, and landscaping.

 **Key Features:** Plastic coated steel external finish with vertical timber cladding sections, Permeable playground and Bio-retention area.

For more information, head to our website [↗](#)



The council opted for a modular construction solution following a formal tender process. A full tender pack, including detailed drawings, was provided to ensure a competitive and thorough selection. Elite Systems won the project due to our bespoke approach, which enabled us to precisely replicate the design specified in the tender. Given the urgency of the school's expansion, our ability to deliver a fast and efficient building solution was a key factor in minimising disruption to students and staff.

- **Pre-construction design phase:**

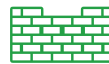
Challenges

The project presented numerous challenges, which we addressed with determination and creativity. Some of the key obstacles included:



Site preparation

A reduced dig was performed to create a level platform for the modular units, ensuring the building was accessible to all, without the need for ramps/steps.



Retaining wall

A 100-meter blockwork retaining wall was constructed to ensure the stability of the hillside and the adjacent playground. Elite systems worked with our civil engineering team to design a wall that was sufficient to meet the imposed loads, ensuring a safe and efficient solution.



Drainage system

A new foul water drainage system was installed and connected to the school's existing system. Due to the school expansion (new building, more students, additional facilities), the nursery required a drainage system that could handle a larger volume of waste.



Service integration

New service ducts were installed to connect the modular building to the school's existing utilities, ensuring seamless integration with the school's infrastructure.



Live School Environment

We installed secure heras fencing to maintain a safe worksite. The modular units were delivered and installed over a weekend to reduce interference with school activities. Implementing stringent measures to minimise disruption during school hours.



Bio-retention Area

A bio-retention area was constructed to filter rainwater on-site. Ensuring the area had the right slope to direct water efficiently while preventing erosion. Traditional drainage systems can become overloaded during heavy rainfall. A bio-retention area slows the flow of water, reducing pressure on pipes and preventing sewer overflows.

The Main Features

Outside

- ✓ **General superstructure-** The superstructure was a single storey hybrid timber/steel frame, with a 25-year structural warranty.
- ✓ **External walls-** Plastic coated steel with vertical timber cladding sections, a modern aesthetic while being low-maintenance.
- ✓ **Roof-** Warm deck roof, EPDM roof cover, also comes with a 25-year warranty, guaranteeing long-term reliability and peace of mind.
- ✓ **Permeable playground-** The permeable surface allows rainwater to soak through, preventing flooding and encouraging natural water management while maintaining a safe play environment.
- ✓ **Bio-retention area-** A bio-retention area was constructed to filter rainwater on-site. This sustainable feature helps improve water quality by filtering pollutants from stormwater runoff and reduces the strain on local drainage systems, supporting environmental responsibility.
- ✓ **Canopy-** A canopy was included in the design. Offering shelter and protection from the elements, creating a welcoming outdoor space for students and staff while enhancing the building's functionality.



Inside

- ✓ **Ceiling finish-** 600 x 600 tiles in white T-section grid with black shadow batten, provides a modern, clean look with improved acoustics, better lighting reflection, and easy maintenance access.
- ✓ **Internal walls-** Foil backed plasterboard, double boarded and fully decorated in the client's chosen colour, ensuring a high-quality, personalised finish.
- ✓ **Floor coverings-** Vinyl wood comfort, the look and feel of wood while offering enhanced comfort underfoot and noise reduction.
- ✓ **Low-Level Sinks** – Designed for accessibility and ease of use, these sinks promote independence for children and individuals with limited mobility
- ✓ **Tiled Splashback to Kitchen Area** – Provides a durable, water-resistant surface that is easy to clean. This feature replicates the style and functionality of a traditional build, offering both practicality and aesthetic appeal.





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Working with Ysgol Ifor Bach was an exciting challenge, particularly with the site's hillside location. Our bespoke modular solution not only met the school's expansion needs but also enhanced the learning environment without disrupting daily activities. By using a tailored approach, we integrated sustainable features like permeable surfaces and bio-retention areas, ensuring the school benefits from a long-lasting, eco-friendly building. I'm proud of how this project came together to create a space that's both functional and sustainable.

– Jason Bowker, Commercial Director at Elite Systems

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The Results

Successful Delivery of a Sustainable and Functional Learning Space

The completion of the modular nursery at Ysgol Ifor Bach Primary School marked a significant achievement in providing a high-quality, custom-designed facility to support the school's expansion. Elite Systems successfully delivered a building that not only met the specific requirements of the school but also integrated seamlessly with the surrounding landscape. The modular structure provided much-needed additional space while maintaining minimal disruption to daily activities at the school.

The innovative approach to site preparation and the construction of the retaining wall ensured the building's stability, even on the challenging hillside location. Additionally, the sustainable features, such as the permeable playground and bio-retention area, enhanced the project's environmental responsibility.

Overall, the project demonstrates Elite Systems' ability to deliver tailored, efficient, and sustainable modular solutions that enhance the educational environment and contribute to the long-term success of its clients.

[View the full case study](#)