Morriston Comprehensive School

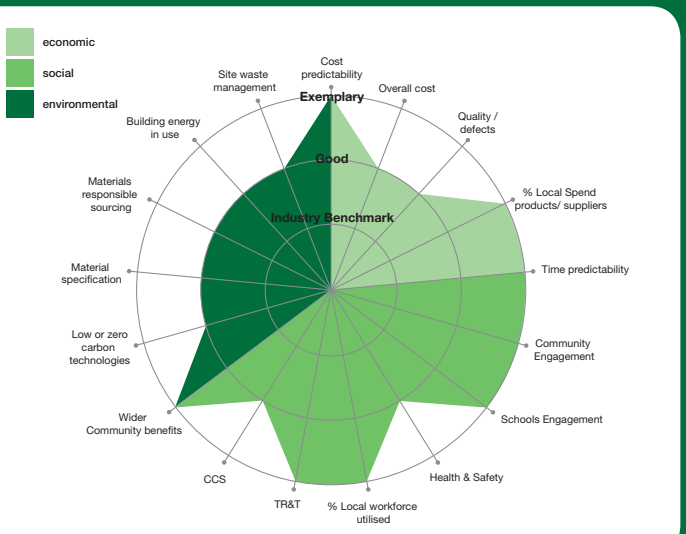
The rebuild and refurbishment of Morriston Comprehensive School represents the highest priority project in the City and County of Swansea's Quality in Education (QEd) 2020 Programme.

The project offers a unique opportunity to raise standards across the age and ability range in line with the Welsh Government transformational agenda, while at the same time improving the poor condition of the existing school buildings.

Lessons learnt from historically adversarial and poorly performing projects have driven the client to a more collaborative and integrated approach to project delivery. This project represents a further step change with greater focus on engagement with the school end users with the primary objective of raising standards.

Challenges for the project team to overcome included:

- Financial – securing 30% council funding during a difficult economic period.
- Procurement – aligning the council's approach with regional procurement arrangements across South West Wales.
- Logistical – programming, health and safety and operational challenges through construction on a live school site around the existing school footprint.



project details

client:	City and County of Swansea
architect:	Stride Treglown
contractor:	Carillion Building
timeline:	Completion January 2015
project cost:	£22 million
project size:	11669sqm
contract:	NEC Option C
procurement strategy:	SWW Regional Framework 2-stage D&B with ECI

what is an Exemplar project?

An Exemplar is defined as 'something worthy of being copied'. The purpose of the Exemplar programme is to identify what actions have taken place at key stages of a project that has led to a successful outcome, so that this learning can be adopted on other projects. The Exemplar programme has been developed to help identify the reasons why certain projects are successful in a standardised, quantifiable way, and to share with the industry what enabled these successes. An Exemplar considers all aspects of sustainability, including economic, social and environmental factors. Projects must demonstrate that they have been innovative in one or more of these aspects in a way that exceeds normal industry practices, while achieving at least minimum standards in all other areas of the project. This is to demonstrate that the scheme is well rounded and has not sacrificed one aspect to be successful in another, while also incorporating best practice measures that can advance the state of the industry. An Exemplar project therefore reflects the ideal industry goal of achieving a scheme's primary aims in a sustainable way, at acceptable costs.

what will make the project successful

- Clear direction by the client and the appointment and development of an integrated team approach from an early stage to ensure certainty in terms of cost, time and quality.
- A procurement strategy based on collaboration and early contractor involvement to ensure that expertise from all parties is utilised from the outset.
- The extensive use of lessons learnt from previous projects and the development of Key Performance Indicators (KPIs) and integrated project management processes to ensure a high standard of performance monitoring, management and continuous improvement.
- A focus on strong communication both within the team and across the Council and local communities.
- Extensive engagement with staff, students and the local community to ensure that the facility addresses educational and community issues both now and into the future.
- Careful management of local supply chains to maximise investment in the local economy and ensure upskilling of the local workforce.
- The application of the Council's own approach to community benefits to maximise opportunities for local businesses, young people and socially and economically disadvantaged groups.

notable achievements

A review of lessons learnt from previous projects and an assessment of current good practices to achieve clarity over the project organisational structure, preferred project delivery model and end user requirements.

Pioneering a process to capture innovation in teaching and learning to "future proof" the new facilities.

A step change in council procurement strategy which has ensured a more collaborative approach to project delivery.

The formal and well structured use of Key Peformance Indicators (KPI's) from the outset of the project will support the team's approach to continuous improvement.

Careful management of and selection of supply chains by the delivery team will help to meet the client's aspiration to maximise contract spend with locally based suppliers.

Identifying specific resources and expertise to become responsible for incorporating whole life cost considerations into the project to ensure that the long term performance of the asset provides value for money and minimises operational costs and carbon impacts.

Minimising the energy consumption of the building through careful attention to design to ensure that future revenue and carbon implications for the end user are reduced.

Designing the school with a clear focus on the end user and a desire to improve teaching and learning experiences and to raise educational standards.

Creating opportunities for young people and socially and economically disadvantaged groups to gain employment and training experiences.

economic considerations

A review of lessons learnt from previous projects and an assessment of current good practices to achieve clarity over the project organisational structure, preferred project delivery model and end user requirements.

Building on the lessons learnt from previous major school building projects (Penyrheol and Cefn Hengoed); the delivery team undertook post occupancy evaluations which consisted of interviews with all key historic project stakeholders. The outcome was a set of principles of best practice which could be developed further at Morriston.

A workshop was held to agree an organisational structure and project management process. This is now a repeatable process that is being rolled out to other major projects across the City and County of Swansea. It supports the stakeholder engagement principles that underpin Swansea's vision for successful project development. Copies are available via these links http://tiny.cc/f7mmbx http://aq.be/03d760.

Pioneering a process to capture innovation in teaching and learning to "future proof" the new facilities

The project will pioneer a process for challenging the school senior management team to promote innovation in teaching and learning as part of the building project. The Outcomes and Benefits Template linked to this process is available via this link http://aq.be/1e9c8e.

In particular, the school has been future-proofed to keep pace with the rapidly developing Information and Communications Technologies (ICT). The school will be both hard-wired and wireless-enabled, with appropriate infrastructure to ensure that learning benefits from the latest mobile technologies but, critically, that the learning can continue to be enhanced in the future as ICT technologies develop. The project team has worked with the school senior management team to challenge teaching and learning in every curriculum area.

A step change in council procurement strategy which has ensured a more collaborative approach to project delivery.

The Council is using this project to build on its collaborative working agenda which began with the rebuild of Penyrheol Comprehensive School in 2008/9. This case study is available via this link http://aq.be/75fdfa. Strategic leaders within the council were convinced of the need to change project delivery methods following a series of adversarial projects that compromised certainty of cost, time and quality.

The lessons learned from the success at Penyrheol were built into the procurement of Swansea's next large secondary school rebuild at Cefn Hengoed in 2011.

The benefits of ECI as well as the collaborative approach will be carried through to the Morriston project where the use of the NEC form of contract which underpins an aspiration to work collaboratively and better the targets that were set at project inception.

The formal and well structured use of Key Peformance Indicators (KPI's) from the outset of the project will support the team's approach to continuous improvement

Key performance Indicators (KPIs) have been developed by the team as a tool for the effective recording of performance and to establish and maintain a strategy for continuous improvement. This is a key driver in ensuring that contractual requirements and client, community and end user aspirations are met. The ongoing submission and evaluation of project KPIs will enable the team to respond proactively and ensure that agreed targets are met throughout the life of the project and beyond.

Targets have been agreed against benchmark satisfaction surveys from previous major school building projects and are in line with the Considerate Constructors Scheme (CCS). Information has also been gathered from post occupancy evaluations. Templates available here http://aq.be/47ad3f

Careful management of and selection of supply chains by the delivery team will help to meet the client's aspiration to maximise contract spend with locally based suppliers

Given that this project represents a significant one-off investment in the local economy the client expressed a clear desire to maximise the proportion of contract spend with local suppliers.

The main contractor operates a database of fully vetted suppliers who will be used to deliver the project. The overriding criteria for inclusion is adherence to a "Safety First" culture. The supply chain database: MyRegister, considered a "best in class" system for supply chain performance management, provides the ability to;

- Measure the performance of suppliers against targets online.
- View performance history from other projects.
- Produce performance- based management reports.
- Ensure local contractors are given opportunities to apply for work.

Performance in terms of local spend will be monitored monthly via the KPI suite.

environmental considerations

Identifying specific resources and expertise to become responsible for incorporating whole life cost considerations into the project to ensure that the long term performance of the asset provides value for money and minimises operational costs and carbon impacts

- The project will be assessed using the BREEAM 2008 assessment method and a BREEAM Excellent rating is targeted.
- The client will work closely with the main contractor's own in house BREEAM accredited professional (AP) in order to secure the excellent rating.

The team's approach has been to:

- Develop a project brief using BREEAM criteria to develop measurable design targets.
- Inform the project team of BREEAM issues from the outset to ensure that any significant opportunities for whole life cost savings are appropriately considered.
- Conduct regular workshops with the project team to develop action plans to deliver the BREEAM strategy.
- Monitor and influence performance against the BREEAM strategy.

The currently predicted BREEAM score is 76.48% giving an anticipated excellent rating.

Minimising the energy consumption of the building through careful attention to design to ensure that future revenue and carbon implications for the end user are reduced

The building is being designed to minimise energy use by specifying u-values significantly better than the Building Regs Part L minimum. The building will benefit from passive design features to optimise energy efficiency, including solar control glazing and shading.

The design will also incorporate combined heat and power systems which satisfy the base heating load of the building whilst also producing electricity for use in the building. A photo voltaic (PV) array on the roof will provide further electricity.

The building will also benefit from natural ventilation wherever feasible with automatic controls to ensure occupant comfort whilst minimising energy use. Where natural ventilation is not suitable, mechanical ventilation will be provided under automatic control, including temperature and Co2 control to optimise efficiency.

Lighting controls will be provided with automatic absence detection and day lighting control. Metering and sub metering with remote monitoring via a Building Management System will be included for electricity, gas and water to enable monitoring of energy use and target setting. The development will achieve a B rated Energy Performance Certificate

social considerations

Designing the school with a clear focus on the end user and a desire to improve teaching and learning experiences and to raise educational standards

The school has been designed to respond to the needs of pupils and their changing curriculum requirements. Key features include

- Adaptable spaces - seating can be used as steps, viewing areas or wholly opened out.
- Smaller areas built around classrooms to facilitate groups.
- Vocational learning opportunities developed on-site for construction, leisure and hairdressing.
- Improved social spaces .
- Improved unisex toilet spaces to reduce bullying and vandalism.
- Shared resource for the community - spaces for PCSO's, Local Counsellor Surgery and Community ICT classes.

Creating Opportunities for young people and socially and economically disadvantaged groups to gain employment and training experiences will be maximised through Swansea Council's Beyond Bricks and Mortar Strategy

The strategy places contractual requirements on the main contractor - ensuring that local people are employed and upskilled, apprenticeships are provided and long term unemployed and NEETs are considered. The strategy ensures opportunities are given to local suppliers.

A copy of the Community Benefits Strategy is available through this link http://aq.be/bd38b6.

Use of the South West Wales Regional Shared Apprenticeship Programme which is endorsed by Welsh Government and the South West Wales Regional Contractors Framework.

This ensures:

- Timely and relevant work experience and assessment opportunities are provided for apprentices.
- Supply Chain are engaged to provide additional relevant experience to apprentices.
- The Beyond Bricks and Mortar strategy is extended into a full regional approach.

Engagement with staff, pupils and stakeholders in the wider community will ensure that the construction project provides a vehicle to improve education and social responsibility. This will be done through:

- Involving the pupil council in the design process through meetings, seminars and workshops.
- 'Construction taster weeks' with members of the project team.
- Consulting the school eco-team on the design and operational management of the building.
- Arranging specific community activities.
- Implementing construction-related curriculum activities.

Releasing contractor staff time for community work .