Centre for Construction Innovation

NWDA Exemplar Project

Northwest Development Agency Sustainable Buildings Exemplar Projects 'St Helens Town Centre Upgrade'

St.Helens Council

SustainableBuildings Northwest

Northwest REGIONAL DEVELOPMENT AGENCY

'Of vital importance to the multi-award winning up-graded of St Helens town centre has been the committed client-contractor partnership delivering the project not just on time and on budget but delivering sustainable value to the area' (Andrew Wainwright, St Helens Council)

Mayfield and St Helens Council joined together in partnership to deliver an ambitious £6million upgrade to St Helens Town Centre. Partnered appointments were based on detailed submissions of environmental commitment to the project, and focused on the Council's objective of setting KPI's that challenged the notion of industry improvement. The goals of the project were established utilising the Northwest Development Agencies Sustainability Checklist for Developers.

From the outset, the aims of the project were clearly set with environmental sustainability as the key driver.

- To recycle or reuse 90% of all the existing materials being removed from site
- To recycle 90% of all packaging materials and source its reuse
- To reduce the wastage factor from the construction process
- To create incentives for employees to reduce wastage and reward accordingly
- To promote good practices and be recognised within the industry
- To engage a high proportion of local businesses
- To employ local people and participate in local apprenticeships

Through early contractor involvement workshops the team quickly assembled key partners to the project including designers, suppliers and stakeholders. With the environmental aims set the team reviewed construction processes, packaging, recycled content, material re-use and design

Client:
St Helens Council

Contractor:
Mayfield

Location Type:
Urban

Project Type:
Town Centre Upgrade

Project Value:
£6m

Sustainable Buildings Policy Themes Included:

Primary Area of Achievement
- Waste

Secondary Areas of Achievement
- Community
- Local Employment and Training
- Business (Local Supply Chain)

and came up with an environmental strategy which would achieve the project objectives.
.The project aim was to create an end product which could demonstrate to both the public and private sectors that a sustainable agenda worked - with the achievement of tangible targets and if possible exceeded within the cost model of the project. From the earliest workshop they identified a need to design, develop and construct the project with sustainability as the key driver, therefore best practices had to be implemented at all stages of the project. At the partnering workshop it was clear the team wanted to achieve results which differentiated from normal KPI's and concentrated on current more tangible benefits. It was therefore decided that the environmental sustainability issues would cover topics including; natural resource, environment, social impact and the economy. Within the team they wanted to demonstrate that by collaborative working teams can achieve above average results within an environment of trust and understanding. The strategy was therefore to:

- To develop good designs in order minimise waste
- To reward people for waste reduction
- To use performance indicators which had tangible results
- To demonstrate efficiency savings (Gershon savings)
- To focus the team on environmental issues.
- To communicate best practices to Industry
- To source the best products not for lowest cost but for whole life cycle

A key objective for the project was to implement a sustainable approach from client inception through to ongoing maintenance.

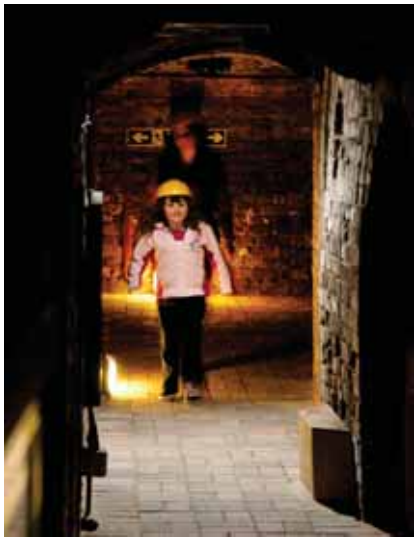
Designing in best practice (natural resources)

- Designs led by the contractor with a multi disciplinary project team Involving key supply partners such as Marshalls Natural Stone Plc
- Ongoing site reviews and adapting levels to minimise screed thicknesses without compromising the design parameters
- Designing service routes after using the latest ground radar surveying to establish all known services and drain positions
- Grouping Service routes together for the lighting and power installations to minimise on site excavation and reducing material disposal, thereby reducing haulage.
- Designing with the disabled group stakeholders by evaluating rain water channels, bollards, layout of street furniture and construction barriers etc.

Prudent use of materials (natural resources)

- Paving sizes designed for ease of handling and modularised to reduce waste
- Implementation of low energy lights in the form of L.E.D.s and using mercury free filaments for the traditional floodlighting
- Sourcing local stone for the bulk paving in the form of Scoutmoor natural stone from Ramsbottom, Lancashire

Respecting stakeholders (social)



- Designed utilising the North West Regional Assemblies sustainable Tool Kit

- An extensive programme of key stakeholder presentations to encourage "buy in", allowing community involvement to shape many detailed aspects of the scheme

- Empowering local schools through art competitions for site use based on a theme of ' new faces for new places ' which is involving a borough wide project undertaking the creation of self portraits.

Project Operations (environment)

- Due to the partnering arrangement the project created an opportunity to invest in new equipment which have the latest low exhaust emission levels and utilise breaking equipment with reduced noise emissions.

- The use of hand held breaking equipment has been minimised. These initiatives were commended by the HSE for both lower emission levels and complying with the latest body vibrations regulations.

- Implementation of work barriers which provide good works segregation whilst maintaining the visual aspect for community. The system was introduced after lengthy consultations with the disabled groups and local shop mobility.

- Tracking of key suppliers such as Marshalls for environmental statements followed by factual information on production/packaging/distribution. In completing the loop the project team reviewed these statements by off site inspections and factory visits. These visits created the opportunity to share learning between manufacture and construction and helped reduce defects within the packing system and ultimately reduce waste.

A recent site audit by the Considerate Constructors stated:

'This is a very impressive contract in which the public care and account-ability is being exercised at a very high standard'

- The project issues bi- monthly newsletters to the retailers and community at large to reinforce our message on sustainability and recycling, and is fully signed up to the Considerate Constructors Scheme which has been a main tool for the implementation of the project Key Performance Indicators (KPI's).

Local economy (economy)

- Engaging locally based SME`s i.e. NL Williams Ltd (metalwork), CEW Ltd (recycling), Paffery Greer (graphic artists), Vinyline Ltd (sign makers) and ire/consumable suppliers.

- Supporting local businesses and promoting local labour initiatives encourage reinvestment into the local economy of St Helens

People Development

- The project maintains its communication to the team by regular tool box talks on topics such as health and safety but also on the effects of waste reduction and new construction processes.
- Engaged with local apprentice recruitment in the fields of street masonry. To date the project has two apprentices in the paving operations. These figures constitute 11% of the work force.
- The partnered constructor Mayfield has a tradition of employing local operatives rather than sub contract labour to allow investment in local skill development.

- Extensive employment of locally based SME`s i.e. NL Williams Ltd , CEW Ltd, graphic artists, sign makers and hire/consumable suppliers

Environmental Benefits to date
Waste Management and Recycling.

The scheme established project environmental objectives in the form of aims, monitoring and improvements. These objectives were developed and executed as follows:

- 97% of all waste material is segregated, reused or recycled. Packing waste is segregated on site in to the main recyclable properties consisting of timber, polythene and waste paper.
- The project to date has achieved a project EPI 23.9m3 / 100m2 as against a national average of 18. and a project KPI of 52.4 which relates to a score on the construction waste chart, within the top quartile of least producers of waste. This is monitored independently through the BRE smart waste web tool. www.smartwaste.co.uk
- Mains water consumption as a construction process KPI is currently scoring 38 which again places the project in the top quartile for lowered water use.
- Existing block paving is continually being reused in community benefit projects such as the re paving to the exhibition floors in the World of Glass –St. Helens and providing paving to the Restorative justice projects within St. Helens. To date we have provided 2200m2 of block paving to the Harlow allotments and Wellington terrace scheme which has saved the scheme in net terms £22,000

- Established a partnered arrangement with a local waste company (CEW) to receive our segregated waste and re-purchase hardcore fill in the form of 6F2. CEW in-turn supports the local St. Helens partnership for the placement of trainees within their intermediate labour market Initiative.

- All waste calculations are prepared using a web based tool Smart waste via the Building research establishment.

- Via our supply chain all packaging materials can be recycled or have been manufactured from recycled materials. i.e. all crates and polythene connected with the Stone and granite products can be reused, where as the screed material is supplied in recycled bags. To date we have segregated 134m3 of timber.

- Implemented a scheme on site whereby site operatives can share in a financial return in the form of a wastebonus, by reducing the percentage waste factor as against those allowed within the cost plans. To date total bonus

payments for waste reduction is £7632.00. In wastage percentage terms overall waste has been reduced to 2.1% from a cost allowance of 5%.

- Direct quantifiable benefits to the project up to December 2006 can be viewed as follows:

✓ To date £1265.00 has been saved on the cost of skip hire by segregating waste.

✓ 22nr HGV movements have been reduced by the direct result of material re-use on site i.e. material screening.

✓ The scheme will benefit from lower electrical charges by using a high proportion of L.E.D lighting for the street scene creating an annual saving of £3876.00 year on year.

✓ 3564 tons of segregated material which equates to 178 vehicle movements have been made within an 8 mile radius of the project thereby reducing further carbon omissions, whilst again supporting local enterprises.

Company Benefits

The main beneficiary to the scheme was the environment in which this was the principle aim. The scheme established project environmental objectives in the form of aims, monitoring and improvements. The partnership between St. Helens Council and Mayfield Construction was a fantastic success in realising the benefits of sustainable. The partnership collectively made headway in both social involvement and community benefits, in local employment and local suppliers through to local community projects. The project has had significant implications for Mayfield's business operations and in particular, has given specific consideration to the environmental impact of construction works. Following the success of the sustainable construction initiative at St Helens, Mayfield have utilised the knowledge & experience gained during the project to implement a company wide environmental initiative, incorporating the benefits of sustainable construction & reinforcing the existing Environmental policy and practices.

The business recognition can be best illustrated by the award of Environmental Business of the Year 2006 at the coveted Groundwork Merseyside 21 annual environmental awards held recently in Liverpool. By focusing on this, we endorsed economic, social and environmental sustainability. This process enabled us to devise plans which delivered tangible results, both in cashable and non-cashable ways to deliver above average results:

- Within the waste – construction process KPI we achieved a bench score mark 52.4 which places the project in the top quartile of least producers of waste.
- Waste segregation and re-use of 97% (Using BRE smart waste web tool)
- Waste on natural stone products reduced to 2.1%.
- Re-used over 2200m2 of existing paving back into public schemes.
- Assisted stakeholder groups such as the 'justice reform programme 'with elemental training.
- Employee satisfaction bench score mark of 52% - above average.

The construction industry recognised the efforts for exceeding industry benchmarks by awarding the project with the following achievements:

- Environmental business of the year 2006 – groundwork trust.
- Energy ,water & waste conversation award – groundwork trust.
- Gold medal winner Innovation / sustainability at the national Green Apple Award 2006.
- Short listed for the 2006 North West environmental Business award.
- Considerate constructors award 2007

What made this project work?

By implementing an early contractor involvement with the client prior to commencement of phase one, sustainable initiatives could easily be achieved at no cost to the project therefore, the lessons learnt were applied to phase two of the scheme. Mayfield Construction are now implementing the

new initiatives' throughout business as direct result of the cost saving ideas. The most important points of the project can be best summarised as follows:

- For both the customer and provider to jointly agree tangible environment targets.
- The early buy in by the supply chain to change / improve packaging systems.
- Aiding local community projects with re-usable materials.
- Using health and safety as design driver.
- Good monitoring systems – BRE smart waste.
- Introducing incentive schemes for waste reduction.

Key Lessons Learned:

- Essential to collaborative working is strong leadership, an individual who will champion collaboration, someone who believes in its value and who will ensure a team approach is adopted throughout the process. Create partnering charter.
- To put in place a clear governance structure that supports and respects collaborative working.
- All key organisations (client, contractor, supply chain) to attend partnering workshop(s) to ensure an integrated team, a seamless team with no organisational boundaries that will produce a common set of delivery goals.
- To establish themed/specialist delivery groups to manage priority issues i.e. materials (innovation, savings/value engineering/whole life cost, community benefits, KPI's. It is critical that such groups are attended by client, contractor and specialist advisory bodies and that they are appropriate personnel in terms of knowledge and decision making ability.
- Measurement and monitoring were applied from the start of the project. Looking to achieve performance goals against environmental issues has meant the project team were committed, not only to delivering the statutory minimum, but a more stringent set of internally and externally audited standards.
- The availability and use of recycled materials does not hinder a project and can be cost effective.

NWDA exemplar projects aim to disseminate innovation and best practice in construction in the North West

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