

Water, Mills and Marshes

Heritage skills and training
report





Introduction

This report relates to the development stage of Water, Mills and Marshes - a £4.5 million programme of projects that focus on the people, communities and heritage of the Broads drained marsh landscape.

There are 38 projects and 55 partners involved in the initiative which is presented by the Broads Landscape Partnership.

The project will be based within areas of the Broads National Park, 117 square miles of the UK's largest nationally protected wetland with 125 miles of navigable waterways within Norfolk and Suffolk.

The vast majority of the projects take place within the National Park but aim to make an impact in the neighbouring conurbations of Norwich, Great Yarmouth and Lowestoft. The report was prepared by the team at Claritie CIC.



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Background

This report relates to the Skills Training element of the Water, Mills and Marshes project. The project has a major focus on the restoration of a number of windmills or wind pumps under the project heading of 'Land of the Windmills'.

There is a £650,00 investment in renovating the mills in and around Halvergate Marshes. An additional £161,500 has been allocated to delivering a 'Heritage construction skills' training project.

The latter project is geared to ensuring that the skills required to restore the windmills are embedded into local colleges and that career paths are developed for those wishing to work in the Heritage sector.

A comprehensive Skills Training report was made available to the Claritie team. The report detailed proposed methods of training, training partners, courses on offer and additional qualifications that could be attained.



Methodology

Our brief was to reflect the aspirations for the Scheme. These were that the training delivered:

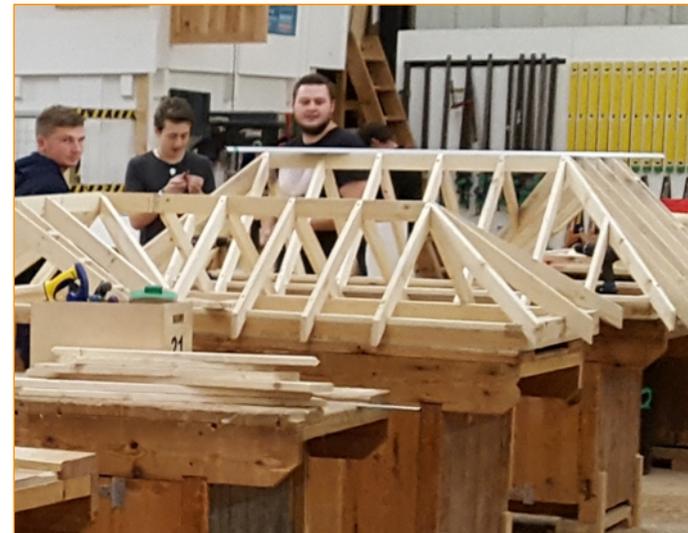
- Leads wherever possible to recognised qualifications
- Is focussed on a wide range of ages and that the backgrounds of the participants should not act as a constraint
- Creates a lasting legacy with programmes continuing where possible after the Scheme.

The stated training outputs from the project were:

- During life of project train up to 400 students in heritage skills across disciplines of; carpentry joinery, brick work, painting and decorating, agricultural engineering, scaffolding.
- Post project continue to train over 80 students per year
- 15 tutors trained in heritage construction skills
- Up to 25 Broads mills and numerous heritage structures will have benefited from work
- Network of specialist trainers established
- Created a centre of excellence for heritage skills training

Our method of approach would be to:

1. Undertake a thorough desk review of the Skills Training elements of the project
2. Confirm the direction and robustness of the current training proposals
3. Explore additional training avenues and opportunities
4. Recommend courses of action



Project analysis

Desk research analysis

Representatives from Easton and Otley College, CITB and the Broads Authority had met during the preparation of the stage 1 HLF document to work together to prepare a comprehensive Skills Training project outline. This project outline document clearly showed a project progression path that included the participation of Easton and Otley students, the development of a comprehensive level 3 NVQ programme.

NVQ students from Easton and Otley College would undertake work experience programmes that would compliment their NVQ's.

The work experience would take the form of restoring the Windmills and they would be mentored in this task by a combination of local craftsmen, Easton and Otley Tutors and members of the Broads Authority.

Having undertaken the required desk research and having gained an understanding of the structure and training methods proposed we held a meeting with Otley and Easton College College to discuss methods of progression.

Qualification Title: Level 3 NVQ Diploma in Heritage Skills (Construction)

- Pathway 1:** Level 3 NVQ Diploma in Heritage Skills (Mason)
- Pathway 2:** Level 3 NVQ Diploma in Heritage Skills (Brick Worker)
- Pathway 3:** Level 3 NVQ Diploma in Heritage Skills (Earth Builder)
- Pathway 4:** Level 3 NVQ Diploma in Heritage Skills (Finisher)
- Pathway 5:** Level 3 NVQ Diploma in Heritage Skills (Dry Stone)
- Pathway 6:** Level 3 NVQ Diploma in Heritage Skills (Decorative Occupations)
- Pathway 7:** Level 3 NVQ Diploma in Heritage Skills (Wood Occupations)
- Pathway 8:** Level 3 NVQ Diploma in Heritage Skills (Wall and Floor Tiling Occupations)
- Pathway 9:** Level 3 NVQ Diploma in Heritage Skills (Plastering Occupations – Solid plastering)
- Pathway 10:** Level 3 NVQ Diploma in Heritage Skills (Plastering Occupations – Fibrous plastering)
- Pathway 11:** Level 3 NVQ Diploma in Heritage Skills (Roof Slating and Tiling Occupations)
- Pathway 12 :** Level 3 NVQ Diploma in Heritage Skills (Blacksmith)
- Pathway 13:** Level 3 NVQ Diploma in Heritage Skills (Metal Roofing)
- Pathway 14:** Level 3 NVQ Diploma in Heritage Skills (Thatching)
- Pathway 15:** Level 3 NVQ Diploma in Heritage Skills (Façade Preservation)

Extract from HLF stage 1 report

Project analysis

Project analysis – the barriers

The meeting with Easton and Otley College raised the following points:

- NVQ students were at the college on release from their employers. It was quite possible that their employers would want them back in their own workplace for any work experience activity.
- Heritage courses could be operated but they would have to be funded from somewhere and the source of the funding would either have to be the Water, Mills and Marshes project or the CITB.

Issues

1. The whole programme had been built around NVQ students who were clearly going to be committed to their own employer when the time came to undertake work experience
2. There was no money in the Water, Mills and Marshes budget to fund dedicated or partial NVQ Heritage construction modules
3. A meeting with the CITB confirmed that there was no funding available from them to support these courses.

Result

The entire basis on which the training project had been built was compromised. If it was to continue as a project our task was now to reconstruct a training programme that met all the needs of the project and fell within budget. In order to move forward and increase / maximise opportunities for a successful outcome, we embarked on a “ground up” redesign enlisting the help of local heritage construction companies and other educational establishments in particular Norwich City College.

Solving this skills training issue would be critical as the restoration of the windmills and the heritage construction legacy of the project – both critical to the overall outcome of the Landscape partnership scheme – needed urgent resolution.

Project development

Developing a new programme

Having worked with a multitude of colleges to produce many student volunteer programmes we were aware that not all students at college studied NVQ's and that other learning options produced similar outputs. Full time students are not relying on the permission of their employer to be released on work experience programmes. They are however reliant on their college seeing the benefit of releasing them to work on certain projects.

Telephone conversations with Norwich City College, Gt. Yarmouth College and Lowestoft College confirmed that their full time level 2 and 3 BTEC construction students would be ideal candidates for work experience on restoring the windmills and they all would be delighted to participate and support the project. In order to form a workable model that could apply to any of the colleges we decided to work closely with the Construction Department at Norwich College.

The following quickly became apparent:

- The college has 150 students undertaking BTEC Level 2 courses
- Around 70 of these are taking full time courses in Carpentry, Brickwork or General maintenance at level 2
- A further 50 students are studying these full time courses at level 3
- Over 100 students studying Plumbing and Electrical trades would be available for general work experience tasks
- These trades require only a small amount of transfer training to become Heritage skills
- The college struggles to offer students meaningful outside work experience placements and would welcome helping to restore the Mills
- Developing a Heritage construction partnership programme that benefited the students would gain the support of the whole college.



One of the carpentry shops at Norwich City College

Project development

The BTEC programme

Students study BTEC Firsts in Construction through a combination of practical experience and written assignments, these vocational qualifications provide level 2 learners with the knowledge, skills and understanding needed for a career in the sector. Units offered include brickwork, carpentry and joinery, plastering, painting and decorating, roofing, tiling, plumbing and electrical operations.

BTEC Level 2 qualifications have been developed to:

- Provide education and training for those who work or are intending to work in the construction industry
- Provide opportunities for those who work or are intending to work in the construction industry to
- Achieve a nationally recognised Level 2 vocationally specific qualification
- Provide full-time learners with the opportunity to enter employment in the construction and built environment sector or to progress to vocational qualifications such as the Edexcel BTEC Level 3 Nationals in Construction
- Give learners the opportunity to develop a range of skills and techniques, personal skills and attributes essential for successful performance in working life.

Options include progression to a further qualification in construction and the built environment, for example a BTEC Level 3 qualification in Construction, Civil Engineering or Building Services Engineering, or entry to industry with the possibility of undertaking additional training, possibly leading to the completion of an NVQ, an apprenticeship or a technical certificate.

- Structure of the Construction Industry
- Exploring Health, Safety and Welfare in Construction
- Unit Optional units
- Use of Science and Mathematics in Construction
- Construction Processes and Operations for Low-rise Domestic Buildings
- Construction Methods and Techniques for Low-rise Domestic Buildings
- Construction Drawing Techniques
- Exploring Carpentry and Joinery
- Exploring Trowel Operations
- Exploring Painting and Decorating
- Exploring Building Services Techniques in Construction

Level 2 BTEC construction learning modules

Project development

The BTEC programme – the reality of skill levels

The reality of the skills level of BTEC students during level 2 is impressive. We saw first hand during a tour of the college and its facilities the standard of work produced both in the bricklaying and carpentry/joinery workshops. Students were building inlaid brick structures, stairs, roof trusses to a very high standard. This obviously progresses even further during their Level 3 year.

There can be no doubt that, under supervision, these students are more than capable of meeting the standards required to restore the Mills.



The college wood machining area

Transfer of skills

Having seen first hand and discussed modern construction skills with college tutors there appears to be little doubt that the skills obtained by students undertaking modern construction courses are transferable to those needed to restore the mills. Where techniques or materials do vary, tutors at the college have the experience in heritage construction to provide their students with a one day course to overcome the issue.

Facilities

Norwich City College has extensive and dedicated facilities to teach brickwork, carpentry and joinery etc. They also have the equipment and expertise to manufacture a single one-off component that may be required during the mill restoration process. The college has a number of minibuses that would be available free of charge to ferry students from the college to any mill restoration site.

Project development

Developing the programme – creating a learning pathway

The Water, Mills and Marshes scheme has the aim of developing, providing and supporting a clear learning and career progression pathway for those entering the Heritage skills construction sector. It is obvious that the scheme, working in tandem with suitable colleges, can provide vital components in this quest.

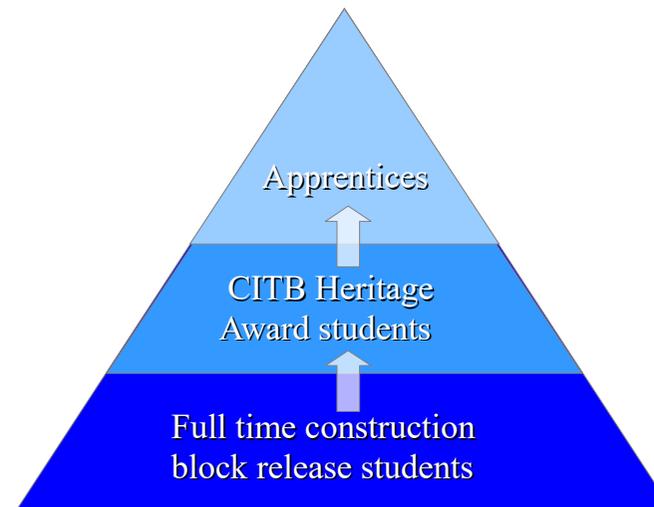
Offering full time BTEC construction students meaningful work experience is a key factor, as is the ability to offer a very short transfer of skills course. Students that excel in the work experience element need to be encouraged to look at the Heritage construction sector as a serious alternative to a career in traditional construction.

The scheme could offer these students the opportunity to attend a fully funded short course specifically aimed at providing them an award of qualification in Heritage brickwork or carpentry/joinery.

Colleges already have experienced tutors to deliver such courses and the CITB have agreed to assist in developing the awards and giving them accreditation.

It may be possible via partner funding to offer one or two millwright apprenticeships to the very best of the students who participate.

There is more work to be undertaken to establish how the scheme can assist in the initial recruitment of students into Heritage construction from High schools.



Learning progression pyramid

Project development

Developing the programme – managing the learning pathway

In order for the project to succeed the delivery team will have to establish methods of managing the Skills Training programme – specifically how the scheme interacts with colleges.

We suggest that the following actions take place:

Initial induction

The Delivery Team undertake a half day introduction session for all construction students. Subject matter includes:

- Highlighting the need for heritage skills using PowerPoint and video presentations
- An Introduction to the history/role/condition of the mills
- An outline of the programme on offer – opportunities, transition skills, work experience, volunteering, CITB awards etc.

One month prior to work experience

- Half day technical session delivered by the Delivery team on how mills work, an overview of components and the tasks required
- Half day or 1 day session for students to understand and acquire transition skills from modern to Heritage construction.

One week prior to work experience

Full briefing by Delivery Team on the location of the works, tasks to be completed, time-frame available to complete the work and health and safety etc.

Developing a legacy

Instituting a Heritage Training Group, a composite of experts and trainers in Heritage Construction, will greatly assist development of Heritage construction in the area. This body should have the recruitment and training of young people as its single focus and to this end have a meaningful budget to promote Heritage construction as a career via its own careers website. Activities to further the aims of the group could include arranging demonstration visits to local High schools by construction students. This would highlight the type of work the sector can offer and promote the learning pathways that will enable the pupils to enter the sector.

Project development

Developing the programme – comparing outcomes

Our brief was to reflect the aspirations for the Scheme.

The format has changed dramatically – so how do the two formats compare:

The outputs from the original project were:

- During life of project train up to 400 students in heritage skills across disciplines of; carpentry joinery, brick work, painting and decorating, agricultural engineering, scaffolding.
- Post project continue to train over 80 students per year
- 15 tutors trained in heritage construction skills
- Up to 25 Broads mills and numerous heritage structures will have benefited from work
- Network of specialist trainers established
- Created a centre of excellence for heritage skills training

The outputs from the revised project are:

- During life of project train up to 400 students in heritage skills across disciplines of; carpentry joinery, brick work, painting and decorating,
- Post project continue to train over 80 students per year
- 100 students receive the NEW CITB heritage award in construction
- Up to 25 Broads mills and numerous heritage structures will have benefited from work
- High schools receive demonstrations of Heritage construction to improve enrolment in FE construction courses
- Created a centre of excellence for heritage skills training
- Established a Heritage Training group

The newly developed training and skills programme meets almost all the original project aspirations. The new programme has the advantage having two extra legacy mechanisms in visiting High schools to encourage recruitment and the establishment of the heritage training group. It offers the opportunity to engage with a greater number of local educational establishments.

Conclusions

Conclusions

This has been a difficult journey. The development team's disappointment that the original project proposals could not be taken forward as originally envisaged was considerable. The significant amount of work put into the stage one bid was at risk. Regardless of where the fault lay the situation had to be rectified.

The total investment of almost £1 million in restoring the mills and undertaking heritage training is the cornerstone of the whole scheme and far too important to suffer further setbacks – particularly in the delivery phase – re-visiting ideas that had proved undeliverable in the past was therefore, not considered a desirable option

The most refreshing and rewarding aspect of undertaking this brief was working with Steve Carr and his construction team at Norwich City College. Through the enthusiastic and substantiated engagement of the team we were able to develop a model which not only delivered the original stage one aspirations but was more flexible and had the potential to reach a wider student audience.

In view of this I recommend that the Delivery team works closely with Steve Carr and the capable and motivated team at NCC to further develop and then deliver the primary Skills training element of the Scheme through to delivery within the wider construction skills education sector.

Tasks in progress

Skills Training tasks in progress

The following tasks are in progress:

- Development of CITB awards and certification modules
- Establishing membership criteria, responsibilities and activities of the Heritage Training Group
- Outline WMM presentations for college construction students
- Advice document for WMM project leaders concerning the use of volunteers.

Report compiled by the team at **Claritie**

3rd. November 2016

