



National
Trust

Building design guide

- use of trainee stone masons in a conservation project
- maximising the opportunities for heritage skills
- pyramid model approach to suit a variety of skill sets
- multi-faceted approach to engagement and interpretation of conservation in action, with significant time and cost implications



The Orangery

Essential repairs to a Grade II* listed building on the Heritage at Risk Register, September 2013

The Orangery

Tyntesfield Estate, North Somerset



Above **The Orangery** was listed on the **Heritage at Risk** register

Background

In Tyntesfield's Conservation Management Plan, the Orangery has a significance rating of 'A: highly significant' being of 'undisputed national, and possibly international importance'. It is a rare example of a later Victorian Orangery in the Classical style. The Grade II* listed Orangery was on the Heritage at Risk Register with a priority 'A' rating and essential repairs were required to ensure the conservation of the building structure and historic fabric.

The Orangery was built in 1897 during the re-modelling of the Kitchen Gardens. It was acquired by the Trust as part of the Tyntesfield Estate in 2002 and was in serious disrepair with water penetration into the core of the structure. Buddleia was prevalent throughout, mortar washed away from brickwork joints and large amounts of decorative stonework had crumbled and fallen away. The building had to be closed to access having been deemed structurally unsound. Minimal emergency conservation works were undertaken in 2005 to make the building safe, with the addition of a temporary roof erected over scaffolding to provide weather protection to minimise further decay.

Considerable repair works were required to allow the building to be used and admired in the context of its Kitchen Garden surroundings.

The original Heritage Lottery Funding bid outlined a commitment to using apprentice labour, on the Orangery conservation project, as part of their training.

Project brief

As part of the project essential conservation repairs and alterations to the Orangery were required in order to remove it from the 'at risk' register. This would enable public access and allow the building to be used to generate additional revenue to support the on-going conservation and maintenance of the Tyntesfield Estate.

The building would be restored to conservation standards, returning it to the centrepiece of the Kitchen Garden.

Ultimately, the building would be used for events and functions as well as an Orangery. Therefore it was essential for it to have electricity, and ideally to have lighting.

The building would need to be physically accessible on a daily basis for wheelchair users and visitors with impaired mobility.

The conservation work would include the training of apprentices, workshops and lectures for the general public and interpretation for visitors, concentrating on key segments.

Sustainability would need to be enhanced in the long term as part of the wider Kitchen Garden eg. rainwater collection, use of renewable energy sources etc.



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And the Commercial Education Trust programme for the project delivered:

- addressing the gap in traditional building skills, particularly stonemasonry;
- providing professional development for the heritage sector;
- a route into the stonemasonry/stone conservation trade;
- commercial skills to support business survival;
- awareness and promotion of the importance of traditional building skills;
- developing and sharing an exemplary model of training that could be adopted elsewhere.

Above The rear of the Orangery before the project, overgrown with plants and in need of extensive repair

Key factors

- Conservation repairs to roof, masonry, windows, doors and rainwater goods.
- Installation of sympathetic new accessible route into the building.
- Installation of new electricity supply with minimum impact on the building.
- Implementation of a training pyramid based on a broad base of accessible activities for many, through to very intensive training opportunities for a few.
- Partnership working between the Trust, building contractor, education partner and another charitable trust.

Consultees

- Approved Inspector (Building Control)
- Commercial Education Trust (CET)
- Community, Learning & Volunteering Manager (based at Tyntesfield)
- City of Bath College
- Curator
- English Heritage
- Events Officer (based at Tyntesfield)
- Fund Raising Manager (based at Tyntesfield)
- General Manager (based at Tyntesfield)
- Heritage Lottery Fund
- Local Conservation Officer
- Mann Williams (Structural Engineers)
- NT Access Officer
- Nimbus Conservation (Principal Contractor)
- Skills Supervisor (based at Tyntesfield)
- Visitor Experience Manager (based at Tyntesfield)

Site issues

Trainee labour was central to the vision, strategy and funding of this project. This had both time and cost implications, and ensuring the quality of work necessary for such a significant building was paramount.

The building is within close proximity to the Kitchen Gardens which remained open to the public throughout the works. Careful consideration had to be paid to health and safety, especially as the engagement requirements of the project brought visitors close to the works. This was further intensified by the use of inexperienced trainees on a construction site.

Careful consideration had to be given as to how visitor engagement opportunities could be maximised when the majority of the masonry repairs were carried out in situ at high level behind a safety net screen.

The new accessible route had to minimise the impact on the building's architectural design significance and was restricted by historic hedges etc.

Designations

The following designations apply to this project:

- The Orangery is Grade II* listed.
- The building lies within the Tynesfield Estate which is listed as Grade II* on the English Heritage Register of Parks and Gardens.
- The Orangery was put on the English Heritage at Risk Register in 2008.



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Above Detail of the Orangery door showing the decaying stonework

Design approach

■ **Feasibility report** Nimbus Conservation (specialist conservators of stone and brickwork) were instructed to undertake a survey of the building and then research the feasibility of using trainee labour. Once detailed proposals were drawn up, the Project Manager liaised with the Skills Supervisor to maximise engagement opportunities. This led to a decision to phase the project over a period of three years.

■ **Phase I** was designed to repair the high level masonry, reinstate the roof (including renewal of lead) and undertake masonry repairs to the West elevation facing the Jubilee Garden (the most obvious side for visitors to the Kitchen Gardens). Windows, doors and internal rainwater tanks required removal for off-site conservation works.

■ **Phase II** focussed on masonry repairs to the East elevation, the stone plinth and the stone steps. It also incorporated the reinstatement of the windows, doors and rainwater tanks, with repairs to the drains to ensure that the original rainwater capture system was reinstated.

■ **Phase III** completed the North and South elevation masonry works and included the design and installation of the new accessible route to the building and the new electrical supply.

Phase I was very much students reacting and responding to the learning outcomes of the course which meant that the practical work the students engaged with was course-led rather than led by project need. In Phases II and III the work was divided into sections which enabled the students to progress with the project work. This is the first time that the National Trust has engaged students onto a live project.

Design approach

The contactors were in charge of the students whilst on site and due to their high expectations, and the high standards for the project, students were only permitted to work on the building when authorised by Nimbus. The contractor and project manager developed a good understanding of the students' competencies and by years two and three students could undertake work on the building.

■ **Traditional building skills** The project focused on the principle of using, developing and promoting traditional building skills, particularly stonemasonry, by offering a direct route into the stone conservation trade. It raised awareness of the importance of creating training opportunities for traditional building skills within the National Trust and elsewhere.

■ **Conservation principles** The principles of minimum intervention were used to inform the specification of works with as much of the original materials retained as possible. New additions of materials were kept to a minimum. Repairs were done on a 'like for like' basis to match existing materials using traditional methods and techniques, and where new technologies or materials were required they were chosen to be compatible.

■ **Masonry Repairs** to the stone and brickwork were largely done in situ, with only the most ornate and complex pieces being taken off site. Masonry works were done using closely supervised apprentice and trainee labour alongside experienced professionals. The elevations consisted of bays which was helpful for training purposes as there was a great deal of repetitive detailing.

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■ **Architectural detailing** All damaged or missing elements with a structural or weathering function were fully repaired or replaced. Where extensive loss of architectural detailing such as columns, capitals, decorative mouldings were considered of major significance for the building's architectural quality they were made good. Where insufficient historic material was left to determine the decorative detailing, the stone masons were given the freedom to design based on the patterns used elsewhere on the building eg. capitals.

Above Capitals in need of conservation work

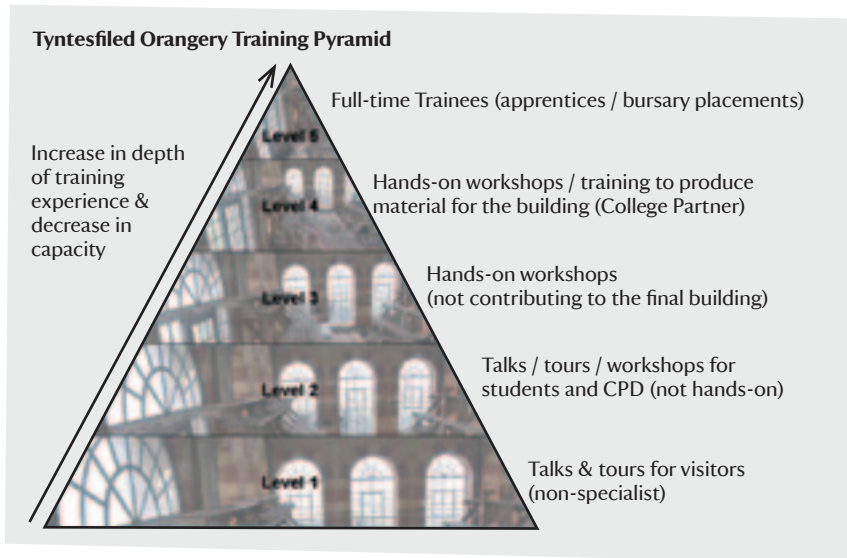
■ **Damaged masonry** Elsewhere damaged and missing stone and brick were replaced, pinned, pieced in or mortar repaired as appropriate. Areas of stonework and brickwork were re-pointed where absence or failure of pointing would have adversely affected the structure or materials and were matched to the historic mortar in composition and finish. Damaging cement render repairs were removed and damaged stone beneath replaced or re-faced as required.

■ **Glazing** Consideration was given to the safety of the glazed roof, but in the end no changes were made to the design or materials. However, as a number of panes were broken in the windows and doors, the decision was made to replace the existing glass with safety glass in critical locations.

■ **Electrics** The new electrical supply was terminated discretely in two commando sockets at each end of the building and portable units supplied to provide additional sockets if required in order to minimise the impact on the building.

■ **Accessible route** The new accessible route was designed to enter the building through the East elevation so that there was little visual impact on the front elevation. Careful planning meant that handrails could be avoided. Unfortunately the width of the accessible route was restricted by significant historic features and as a result the route is not suitable for electric wheelchairs.

Design approach



Above left **Skills pyramid diagram**

Above right **HLF Bursary Student**

■ **Engagement** The scope of engagement and interpretation opportunities were analysed and a skills pyramid drawn up to represent the different levels of training opportunities available to the project.

These were defined at five levels:
(See diagram above left)

Level 5 – Apprenticeships

The National Trust could not employ an apprentice directly due to a lack of eligibility for funding because the Trust is not a construction-based organisation, plus there were no on-site employed expert craftsman to teach or sufficient work to support such a position for the three year period suggested. Therefore the decision was made to appoint a contractor with a strong track record of training and apprenticeships and encourage them to appoint a skills trainee through the Heritage Lottery Fund bursary scheme.

Level 4 – Student partnership with City of Bath College

Stonemasonry students on the new Architectural Stone Conservation (National Qualifications Framework Levels 3 & 4) course visited Tyntesfield weekly during their academic year to gain on-site project experience to develop their Stonemasonry and stone conservation skills alongside the specialist contractors Nimbus Conservation Ltd.

Level 3 – Hands-on Stonemasonry workshops

Hands-on stonemasonry workshops were offered to existing craftsmen, students and enthusiasts.

Level 2 – Stonemasonry taster tours and talks (not hands-on)

Tours aimed to provide an introduction to stonemasonry to local school and college students, and an opportunity to share the innovative nature of the project with professional groups and Trust employees.

Level 1 – Visitor tours

Guided visits were designed to appeal to visitors' interests led by Estate Interpreters.

Open day

Public events provided practical demonstrations and the opportunity for school students to interact with stonemasons and training providers.

The HLF funded a Building Bursary Scheme Placement for a six month full time stone masonry apprentice. At the end of this placement the student secured employment with Nimbus Conservation.

The Student Partnership led to extensive hands-on site experience and employability training for students on the Heritage Skills NVQ Level 3 – Architectural Stone Conservation Course at the City of Bath College.



Design approach

Practical workshops were delivered by Stonemasons. These offered participants the opportunity to try stonemasonry.

Taster tours provided participants with an understanding of the unique delivery model of the project.

Visitor tours delivered by National Trust volunteers introduced visitors to the restoration project. In year one, there was also access to a viewing tower staffed by volunteer interpreters.

Open days were attended by schools, educational groups and visitors to visit the site. These offered the opportunity to meet staff and students working on the project. The City of Bath College Stonemasonry department had a stand to discuss the course and work placement during the open days.

Schools Partnership – Ten Creative & Media diploma students from Backwell sixth-form created a mini documentary about the Orangery restoration project. Footage included interviews and the restoration works being undertaken.



■ Health and Safety

Much of the works in Phase I were to be carried out to the cornice and parapet. The Orangery had to be fenced off and netted at high level to make it safe for visitors. A scaffold platform with a window was therefore designed to allow visitors to look out onto the parapet and cornice level work. Experience was drawn from the viewing platform used during the roof repairs for the Tyntesfield House project. All visitors using the platform were provided with hard hats, with a limit of five people to use the platform at any one time. The platform was monitored by Volunteer Estate Interpreters who could use the opportunity to provide background information about the project, information on the Orangery's history and function, and its social and horticulture significance.

Above Interior
September 2011

Project team

Project manager and building surveyor

Building surveyor

Skills supervisor

Curator

Main contractors
Nimbus Conservation Ltd.

Building Control consultant
Oculus Consultancy

CDM coordinator
The Wilkins Safety Group

Structural engineers
Mann Williams

Tutor
City of Bath College

Sub-contractors

Lead work
West Country Tiling

Metal work and glazing repairs
Eura Conservation

Construction

The Orangery is constructed from Bath stone and brick in the neoclassical style and designed to sit at the ornamental heart of the Kitchen Garden complex.

It has a metal framed glazed roof with opening lights, a brick and Bath stone parapet with concrete coping stones and leaded gutters that feed into rainwater tanks. The concrete copings were replaced with new Bath stone copings during the project.

The walls are made of Bath stone with brick quoins at the window and door openings. There are 20 Ionic columns surrounding the 18 windows and East and West timber glazed door openings.

Parts of the decay were preserved in their present state where it was felt that there was no risk to the structural stability to maintain the historical record. However particularly at high level, the parapet, cornice and frieze had to be reconstructed with the addition of some new materials in order to make the building structurally sound.

Carefully designed alterations were made where these were important to the future integrity of the building including:

- Re-design of the rainwater goods, including improved falls to the lead gutters and deeper catch pits to improve the ability of the roof to cast off water which was thought to be partly responsible for the extent of the decay.



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- Replacement of the existing concrete coping stones with Bath stone as they were considered to be largely responsible for the deterioration of the walls given their inability to sufficiently shed water. The new coping stones were designed to match detailing, including drip and overhang, of the original 19th century coping found amongst the debris in and around the Orangery.

- Introduction of a new polythene DPC at the base of parapet to prevent water ingress.

- Use of isolating washers to prevent electrolysis/dissimilar-metal-corrosion within the roof structure.

- Replacement of original iron fixing pins with new steel bar fixings to refit the windows to prevent future spalling of the masonry.

- New floor grates to cover existing grates which were a trip hazard.

- New covers for the internal rainwater tanks for Health and Safety reasons.

Above Works in progress

Products and services

Stone

Elm Park Bath Stone Ltd.

The Stoneyard, Off Potley Lane,
Corsham, Wilts SN13 9RX
01249 715455
www.elmparkbathstone.com

Leadwork

West Country Tiling

Marsh Farm, Blatchbridge, Frome,
Somerset BA11 5EL
01373 462224
www.westcountrytiling.com

Metal work and Glazing repairs

Eura Conservation Ltd.

Unit H10, Halesfield 19, Telford,
Shropshire TF7 4QT UK
01952 680218
www.euraconservation.co.uk

Tutor

City of Bath College

Avon Street, Bath BA1 1UP
01225 312191
www.CityBathColl.ac.uk

Structural Engineers

Mann Williams

Consulting Civil & Structural
Engineers, 7 Old King Street, Queen
Square, Bath BA1 2JW
01225 464 419
www.mannwilliams.co.uk

CDM Coordinator

The Wilkins Safety Group (incorporating Wilkins Health & Safety Services and CDM Coordinators South West)

Underhill Farm, Low Ham, Langport,
Somerset TA10 9DP
01458 253682
www.jonwilkins.co.uk

Building Compliance consultancy

Oculus Consultancy

The Old Function Room, Ashley
Avenue, Bath, Somerset BA1 3DS
01225 480 154
www.oculusconsultancy.co.uk

Main Contractors

**Nimbus Conservation Ltd. (now
Nimbus Conservation South West)**
07968 076027



Above West façade
September 2011



Left Students at Elm
Park Quarry November
2011

Funding

External

External funding was obtained from the London Chambers of Commerce and Industry – Commercial Education Trust (LCCI CET) for the implementation of Levels 2, 3 & 4 of the project. It was predicted that the use of apprentice labour, trainees and the implementation of engagement opportunities would increase the length of the project from one to three years with a significant extra cost. This funding was dependent on including an element of business training to help to give craftsmen additional skills to go on to be successfully self-employed or set up small businesses to trade their skills.

London Chamber of Commerce and Industry Commercial Education Trust (LCC ICET) funded the training elements.

Funding supported:

- Staffing, both Nimbus and National Trust
- Materials and equipment (practice stone, protective equipment, tools)
- Facilities
- Workshop delivery and cost
- Additional funding was made available thanks to private donors and a Direct Mail Appeal in 2009.

Funding requirements

The Heritage Lottery Fund grant for Tyntesfield required that the Orangery use apprentice labour in its repair although the grant itself did not include funding for the Orangery project.

The LCC ICET funding was specifically required to allow to the training programme to go ahead as part of the project.



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Project cost

■ £579,695

■ Training activities represent 11% of the total project spend. This included contractor time to plan and deliver training, National Trust staff time to do the same, materials such as practice stone for students and workshop attendees, Personal Protective equipment and tools for students and workshop participants, transport costs for students to travel to site, and facilities, a temporary workshop and toilets for use by students and workshop participants. (The cost of the scaffold viewing platform is not included).

Above Stonemason undertaking repair works

Procurement

- It was a competitive, single stage tender process.
- Specialist suppliers/craftsmen were involved for the provision of stone supplies and repairs to stone, metalwork, glazing and leadwork.
- The contract was a JCT Intermediate Building Contract 2005 (phased works).

Project duration

- Completion of tender documents: Feb 2010
- Contractors selected: April 2010
- Commenced on site: June 2010
- Project completion: Sept 2013

Post project review

The original objectives were successfully met, with the project delivering 533 hours of training to over 7,000 beneficiaries over a three year period.

The most successful and ground breaking element of training was the student partnership with City of Bath college which helped:

- 27 individuals to achieve an NVQ Level 3 and CSCS card in Heritage Skills.

- 19 individuals have taken up employment in stone masonry/conservation.

The project stands apart for the unusually high emphasis placed on skills acquisition and development. The pyramid model which was adopted successfully allowed people to engage in different ways and maximised the opportunities for learning and training.

The success of the training activities varied from year to year with year two being most successful when the variety of work was greater.

The project aimed to address the skills gap in traditional building skills and has succeeded in contributing to a new generation of masons and stone conservators. The project has mainly enabled those with existing training in stonemasonry to move into stone conservation.

Best Practices

The project has done a great deal to raise the profile of traditional building skills. Over the three years almost 6,000 members of the general public had unusually close access to a live project site though the viewing tower. The project received significant press attention with articles in The Telegraph, (17 Sep 2011), North Somerset Times, (Nov 2011) and Bath Chronicle (Jan 2013).

The project was completed in three years as planned at the outset. This timeframe allowed for it to take approx. two thirds longer than would have been required without such an emphasis on training.

Partnership

A strong and transparent partnership between the different organisations involved, in this case, site owner, college partner and building contractor, is the key to success.

The partnership between the National Trust, building contractors Nimbus, charitable trust The Commercial Education Trust (CET) and educational partner City of Bath College, enabled the project to incorporate numerous skills development opportunities into the restoration project, ranging from a small number of very intensive opportunities at the peak to a broad base of much more accessible activities.

All partners were very supportive of the project at the delivery stage and in their analysis. Contributing factors to the successful partnership include the preliminary work undertaken so that all partners were aware of each other's aims and objectives and agreeing specific targets, partner expectations and timeframes prior to the project commencing with a long lead time.



All partners recognised the value and importance of the workshops to the project and scheduled their time accordingly.

**Above Completed
parapet September
2011**

Post project review

Best Practices

Full time trainees

The value of full time trainees on the project was obvious and beneficial for all partners. The project really supported the engagement of existing National Trust and Tyntesfield volunteers, particularly those who received training to deliver tours to visitors to the site.

Funding

Additional funding to cover the cost of training is critical; passing on this cost to participants through course fees would significantly prohibit participant recruitment.

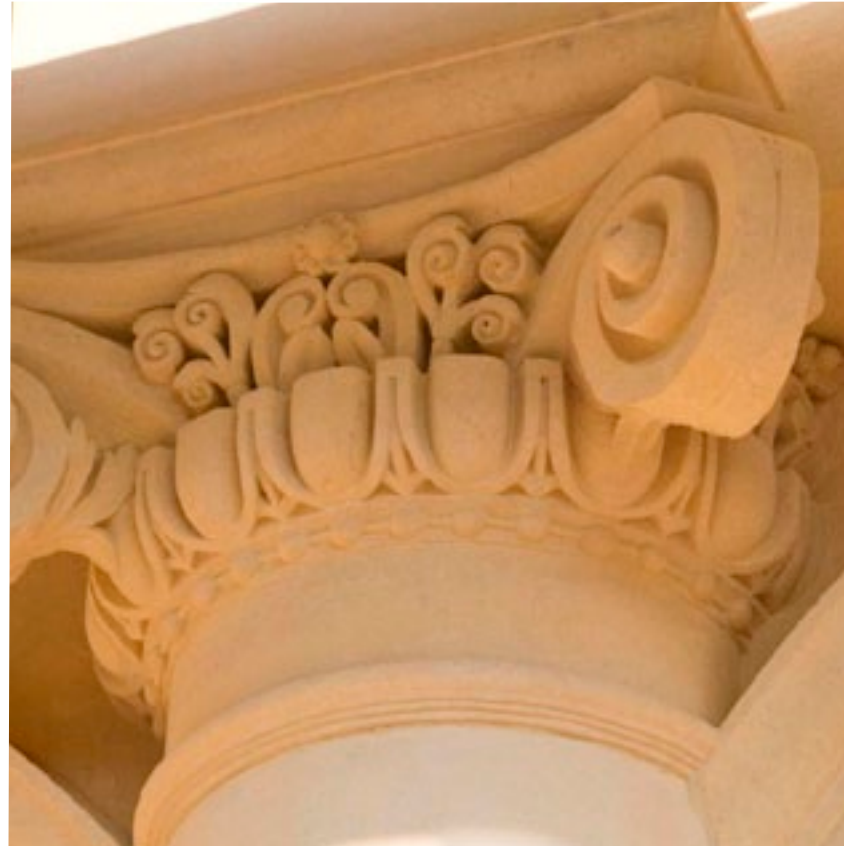
Exemplar project model

The project has been widely acknowledged as an innovative way of working and an exemplar for training. It has won an Association of Colleges Beacon Award, which celebrates the value of joint working between colleges, business, and voluntary sector organisations.

The project has shared its working model widely through well attended taster tours. Many people from peer organisations attended taster tours in order to learn about how to deliver a project with such a great emphasis on training.

There was a large response and interest from CPD groups who wanted to visit the site and learn more about this partnership.

Through this type of project heritage skills are retained which are vital for this industry and to expand the pool of contractors available in this sector.



Above Completed capital September 2011



Left Completed capital September 2011

Schedule of Works

The Schedule of Works was developed around the student timetable and around their academic calendar which meant the project was slower than if a traditional stand-alone contractor was used. The National Trust however recognised the benefits of working with students and accommodated this and would work in this way again.

Contract

The contractor's contract reflected the terms of engagement, specifying, for example to deliver an agreed amount of workshops, outreach to visitors, number of days with students.

The contractors were very enthusiastic in sharing their skills and expertise with the students. They gained a lot from this experience and the sense of pride and achievement gained from sharing their knowledge left the team refreshed and enthused. They felt the project was a success, critically because the structure of the project accommodated the additional time needed to support the students, deliver the workshops and visitor interaction during the project. Agreeing the overall aims and targets at the beginning of the project also established the roles of the contractors.

On-site training

On-site training is invaluable for heritage skills development. It provides participants with a real site experience, a strong portfolio of work, contacts in the sector and good employment prospects, and should, wherever possible, be incorporated into restoration projects.

A successful project delivered in this way needs to be an isolated renovation project (rather than series of tasks across a large site) with one contractor rather than number of contractors on site.

Post project review

Lessons learnt

Scheduling training

Based on the experience and lessons learnt from year one where students spent one day a week on site all year, the programme of building works, training and engagement in years two and three was concentrated between February and July. Students in these years spent two consecutive days on site per week during this shorter period. Students found this change meant it was easier to plan and execute tasks on site. It also meant that we could avoid the need to do lime work over winter when the risk of frost damage was greatest.

Levels of the interest

Although the project was a success, particularly for individuals who were interested in having hands-on experience, it did overestimate the level of the interest and opportunities for engagement on the project within year three and attracting participants.

As the project progressed and neared completion it was harder to attract participants on to the workshops and taster days as there was less work to engage on. The number of participants from years one to three decreased.

Taster tours were particularly successful and exceeded the project targets but participant numbers did decrease as the project progressed.

A high proportion of training activities should take place midway through the project when interest and opportunity is at its highest rather than evenly spaced throughout its duration.



Above Completed voussoirs September 2011

School groups

Engagement with school groups was more challenging than anticipated.

Staff changes

There were staff changes during the project lifetime which was inevitable but did delay delivery of some workshops. A mitigating factor was that the project was based on one site on an isolated renovation project with one contractor delivering the work.

Timescale

The project took approximately two thirds longer to deliver than it would have done without the training element, but this implication was understood and integrated from the outset.

Approach

This evaluation demonstrates how challenging it is to establish a project along this model. It depends upon the successful recruitment of key partners – a suitable restoration project, a contractor willing and able to undertake training and public engagement, a college partner prepared and able to shape their course to accommodate a building project and finally a funder who can cover the increased costs associated with training.

Employment

A commitment to equipping the heritage skills workforce needs to go further than providing training alone as the employment sector is very challenging and new contractors need further assistance and guidance to secure work.

The project certainly provided students with the skills and acumen necessary for this industry but with little job opportunities for employment directly with the National Trust as employment opportunities in this geographical area of the National Trust for this sort of work is always outsourced to contractors.

Design

It has proved impossible to make the roof completely watertight within the constraints of the original design and unfortunately during heavy rain water does drip into the building in isolated places. Originally it was hoped that the building could be used as a wedding venue – unfortunately this has not been possible due to this problem, however the building is successfully used by the Property in a variety of ways including, small events.

Post project review

Awards

The building was submitted for the English Heritage Angel Awards 2011 by the National Trust in partnership with City of Bath College and Nimbus Conservation Ltd.

The project was short-listed for 'The best craftsmanship employed on a heritage rescue'. This led to the team being filmed for a segment on the BBC Culture Show aired on 14 October 2011, being interviewed for Local BBC radio and photographed for a feature in the Telegraph.

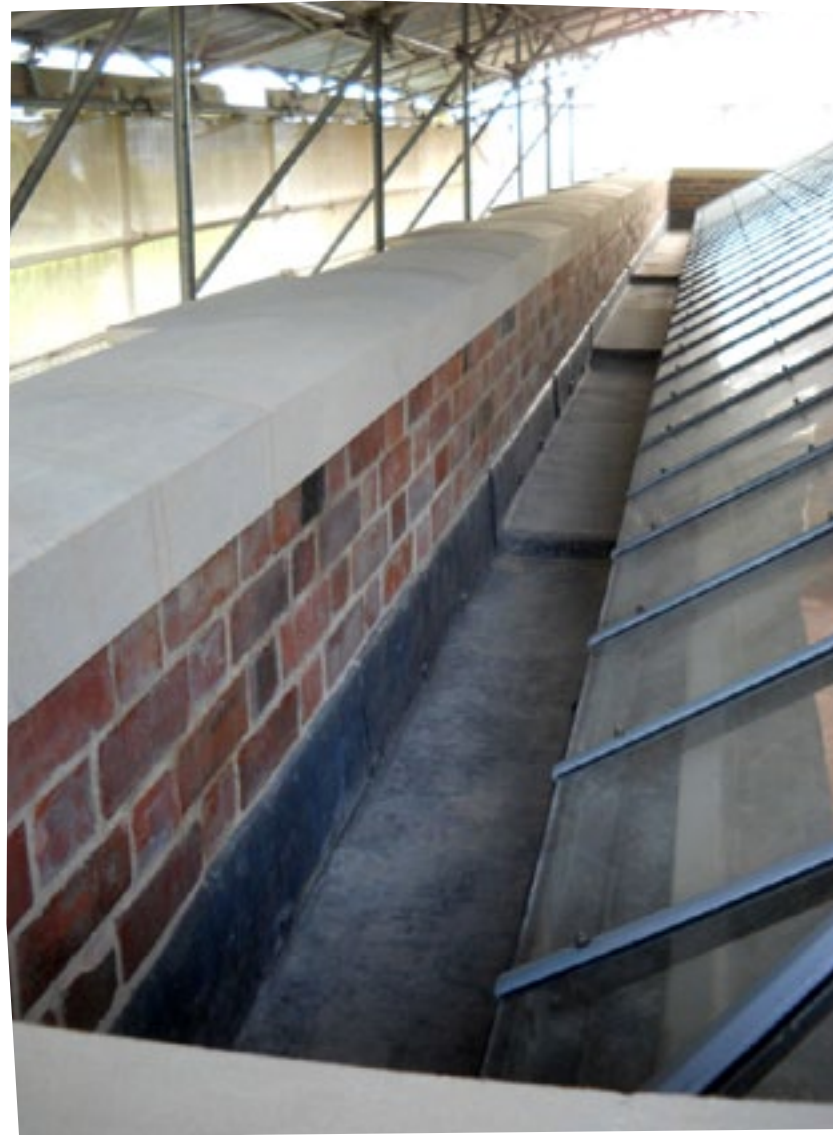
The Orangery won the 'People's Favourite' Award as voted by the Telegraph subscribers and English Heritage members announced on the 31 October 2011.

Feedback from City of Bath College Principal, on the EH awards:

"I'm delighted that the hard work of everybody involved with this project has been recognised through these high-profile awards. Working on the Orangery at Tynesfield has given our talented stonemasonry students first-hand experience of the workplace and provided them with a challenging project on which to hone their skills. Three students have already got jobs a result of the College's Architectural Stone Conservation course and their work on this project and I'm confident that there will be more employment opportunities to come."

Planning Director, English Heritage:

"This is a deserved winner because the project took full advantage of all the potential training opportunities in a challenging scheme of repair and restoration undertaken by an expert conservator."



Above **Completed gutter September 2011**

End-user feedback

Self-employed stonemason and student in year two

The biggest benefits of the course were learning stone conservation techniques on the job and the business acumen gained eg. being able to prepare survey reports and method statements:

"I was particularly keen to do this course because I was very impressed by my tutor's commitment to helping me learn during my three years attending the masonry course."

Self-employed stonemason working on the conservation of block of Almshouses in Berkshire (Grade II listed) and student in year two

Upon completing the course this student was employed by Nimbus for nine months; working on a church restoration followed by work on Bristol Cathedral. He felt that he was employed as a direct result of demonstrating his skills and strength of work undertaken whilst on site. For him the biggest benefits of the course were:

- "Working on a practical 'real life' project;
- Working on an interesting building with period features and interesting details which required a number of disciplines;
- Opportunity to network and show my skills to a potential future employer;
- Enjoying the company and support of some genuinely nice and highly knowledgeable professionals."

Post project review

End-user feedback

Stone sculptor and student in year two

“The biggest benefits for me of being part of the Orangery project were to contribute to the conservation of an important building which otherwise might have been lost and to work with an eminent company, that is Nimbus conservation, and to be expected to work to their rigorous standards on which their reputation is built.”

Subcontractor Conservator and student in year three

“I am currently working as a sub-contract conservator for a stone conservation firm on completion of the course I worked as a bricklayer. The benefits of being part of the project were to get hands on experience of the different types of conservation techniques involved in conserving a historic building. Being involved in the project gave me confidence to seek employment in the industry.”

Genealogist and student in year two

“The biggest benefit of being part of the Orangery project was working on a real building, especially in such a lovely place. I am very proud of the work I did, which will be there for years.”

Student in year one

“I wanted a course that gave me the work experience on a real life project rather than a mock-up of one at the college. This gave me the experience of what/if problems can arise and how to deal with them.”



RICS South West

“I would love to organise another event. The feedback I got from members was excellent and they really enjoyed it. Thank you so much for all your help and for organising the tours.”

Above City of Bath students with certificates on the steps they repaired June 2012

Further information

The Orangery, Tyntesfield, Wraxall, Bristol BS48 1NT
www.nationaltrust.org.uk/tyntesfield/

For information regarding City Bath College refer to their website.

Mini documentary about the project:
<http://www.youtube.com/watch?v=WIMutMiN4gc>

If you require this information in alternative formats, please telephone
01793 817791
or email
buildingdesignguide@nationaltrust.org.uk

Case study information

This case study was researched and compiled by Charlotte Houldcroft and Kath Campbell-Hards. With thanks to Kate Gunthorpe, Katie Laidlaw and Lyndsey Richards for their contributions. Acknowledgements to Ingrid Chesher.

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Above The completed project