



**Association of
Independent
Museums**

Helping Heritage
Organisations Prosper

Success Guide Successfully Managing Capital Projects

Written by Bill Ferris OBE DL, with thanks to Artelia
Based on the experience of the AIM Biffa Award
National Heritage Landmark
Partnership Scheme Projects





**Association of
Independent
Museums**

Helping Heritage
Organisations Prosper



Building communities. Transforming lives.

Success Guide Successfully Managing Capital Projects

*Written by Bill Ferris OBE DL, with thanks to Artelia
Based on the experience of the AIM Biffa Award
National Heritage Landmark
Partnership Scheme Projects*



AIM Biffa Award National Heritage Landmark Partnership Scheme Awarded 2012 - 2015

This guide has been written to share learning from the AIM Biffa Award National Heritage Landmark Partnership Scheme. This scheme provided £1.5million to rescue, restore or bring into use, nationally significant industrial heritage.

Capital projects that involve heritage sites and buildings, frequently face unexpected challenges and more uncertainty than normal projects. Managing these, alongside all the 'normal' challenges of a capital project is a significant undertaking.

The organisations supported by AIM Biffa Award learnt a great deal about project management in the course of their work and this guide shares some of that learning.

About Biffa Award

Since 1997, Biffa Award has awarded grants totalling more than £156 million to thousands of worthwhile community and environmental projects across the UK. The programme administers

money donated by Biffa Group Ltd through the Landfill Communities Fund.

The Royal Society of Wildlife Trusts has more than 20 years of experience in managing social and environmental grant programmes totalling over £250 million and proven successes working with and empowering people to make significant environmental and societal impacts across the UK.

In 1997 Biffa Group Ltd decided to donate landfill tax credits to RSWT to administer under the fund name Biffa Award. To date, Biffa Award has awarded grants totalling more than £156 million to thousands of worthwhile projects across the country.



Picture courtesy of Newman Brothers Coffin Works
Site Team meeting, AIM Biffa Award funded project at the Coffin Works

AIM Biffa Award

National Heritage Landmark Partnership Scheme

In 2011, AIM entered into a 3-year funding partnership with Biffa Award which provided a £1.5m investment into independent museums and industrial heritage sites across the UK. The Scheme focused on landmark industrial heritage sites, relating to key industries including mining, textile manufacture, shipbuilding, metal processing, chemical industries, defence, farming and technologies such as power generation and communication. The heritage projects that the funding supported were:



Newman Brothers Coffin Works

Coffin Works Learning and Interpretation Project
£44,676



Brooklands Museum
Stratospheric Chamber
Restoration & Interpretation
£120,000



Ironbridge Gorge Museums

Bedlam Furnaces - Icon of Industry
£30,099



National Mining Museum of Scotland

The National Mining Memorial
£120,000



The Historic Dockyard Chatham

Chatham Dockyard World Heritage Discovery Centre
£ 117,500



Underfall Yard
Revealing the story of Hydraulic Power
£120,000



London Museum of Water and Steam

Project Aquarius – Babcock Room
£80,364



Brunel Museum
Opening up Brunel's Shaft
£120,000



**Association of
Independent
Museums**

Helping Heritage
Organisations Prosper



Building communities. Transforming lives.



Cromford Mills
Arkwright: Father of the
Factory System
£112,500



Bursledon Brickworks
The Museum of Bricks &
Brickmaking
Reinstating the Second
Steam Engine
£82,000



ss Great Britain
The Restoration of the
Grade II* listed 'Brunel's'
Drawing Office
£117,180



The Postal Museum
Mail Rail: The Birth of the
Underground Postal
Railway
£69,075



**National Waterways
Museum Ellesmere Port**
From Port to Powerhouse
A Window on the World
£119,718



Woodhorn Museum
Colliery Winding House
New Visitor Access &
Interpretation
£35,000



Middleport Pottery
Bringing the William Boulton
Steam Engine at
Middleport Pottery Back to
Life
£120,000

Successfully Managing Capital Projects

Written by Bill Ferris OBE DL, with thanks to Artelia

Contents

1. Introduction
2. Getting Ready for Your Project
3. Planning Your Project
4. Appointing the External Project Team
5. Delivering Your Project

Appendix – Service Briefs, Procurement, Due Diligence and Contracts

The Guide can only ever be an overview and an outline for Trustees and management boards. You might want to read this before embarking on a capital projects, in order to be prepared for the breadth of considerations and again when you know your project is going to go ahead.

1. Introduction

So, you've raised the money, you know what you want to do; now you've just got to do it!

Obvious, but potentially daunting and a critical moment in determining the successful outcome of a project. In reality this delivery part of the process should have been well thought through long before the funding is in place.

Delivering successful projects is a serious business and one that, unsurprisingly, most museum and heritage organisations are not really set up to deal with, despite the probably relevant and wide ranging knowledge held within trustees, staff or volunteers.

Why would they be? Such organisations deliver museum services as "the day job" and capital projects are one off events, so planning how the organisation will resource and deliver a project

is as important as every other part of the work of the organisation.

Capital projects are exhilarating, exhausting, exciting, demanding and all consuming! For most organisations the project is a means to an end not an end in itself.

Alongside delivering the capital project you will be researching and preparing your collections for new exhibitions, fundraising, developing new marketing materials, planning new ways of delivering your operations etc. so that when the contractors move out, the "home team" is ready to make a success of the finished project.

Doing all of this, and possibly keeping your museum open throughout, is extremely demanding - *make sure you will have the people and budgets you need to make a success of your completed project.*

2. Getting Ready for Your Project

Being a Good Client

You are the client for your capital project and it is your project, not the funder's, the project manager's, architect's or any other of the designers' or consultants' who you employ.

You employ professionals to help provide services beyond your experience or capacity and you delegate such services to them but...you must understand the boundary between delegation and abrogation of responsibility.

As client you should build an excellent relationship with all the project consultants, contractors and your own directly involved team members. It should be honest, transparent, creative, communicative and quick - recognising that your organisation is the lead.

The old adage of “not buying a dog and barking yourself” is true but most successful dog owners will tell you that the dog knows who the boss is and will do anything for them. So no need to bark but plenty of need to

know why the dog is barking and how to respond as its leader!

Fundamental attributes of a 'a good client':

- Leadership and vision
- Clarity of project purposes and consistency of your success criteria
- Clear lines of responsibility and authority
- Engagement and Availability
- Approachable and able to accept advice for consideration
- Decisiveness and clear decision making protocols
- Good systems especially for rapid decision making
- Commitment to excellent communications
- Enthusiasm to build a sense of team and common goal
- Plans for what will happen after the project is finished

TIP

Planning and resourcing for post capital project operations should be a primary focus for organisations and is often under resourced as projects take over



Picture courtesy of Chatham Historic Dockyard Trust

The Journey

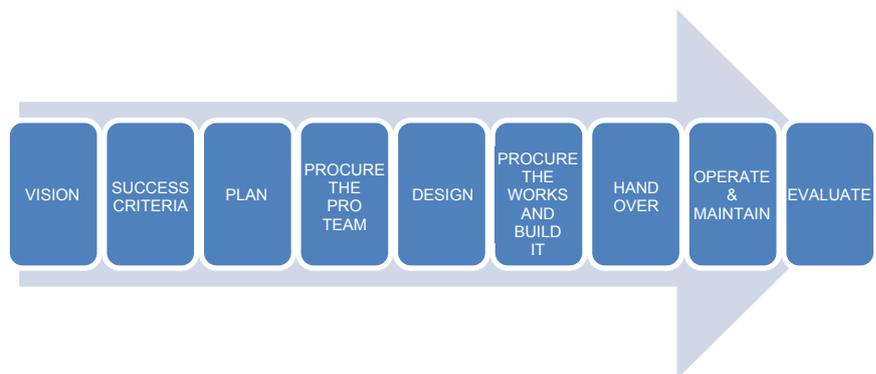
You're now about to set off on a linear journey and the first three steps of that journey are critical to success, in that you:

- Know where you want to go – Your Vision
- Why you are going to your new destination -- Determine your success criteria so you and the project team can keep referring

back to them to ensure you are delivering what you set out to deliver.

- Have a map - Plan your journey and think about what could get in the way of reaching your destination

The rest will fall in to place...



Remember that your vision must be about what you want to achieve, which will only be possible through the capital project you are going to undertake. The vision should not be to have a building for a building's sake, but about the difference that space will make to how effectively you can deliver your purpose.

Client Project Team Structure

Early on in the project you need to set up a client project team (*the "home team" of staff, trustees and volunteer's directly engaged in the projects planning and delivery*) so that the roles and responsibilities of those within your organisation who are working on your project are clear.

A degree of formality to this is necessary for a large capital project, as there are potentially both emotive and high-risk decisions to be made as the project develops.

Usually an organisation will appoint a key person to lead the project. They might be called the Project Director or Internal/Client Project Manager, to distinguish them from a consultant project manager.

They may be someone who was already employed by the organisation and who may not have led a major project before (possibly continuing their normal role alongside the project manager role, though how demanding this can be should not be underestimated).

Sometimes a new member of staff is recruited.

During the project there will be lots of key decisions to be made - whether they are about signing off the brief, design, appointment of consultants and contractors, spending money or making changes.

It is important to be clear on how much decision-making is delegated and what needs to be decided by the trustees or other senior members of the organisation.

In all cases it is necessary to have a process that ensures decision-making is informed, speedy and decisive!

The risks and impacts on organisational operations dictate that it is vital that the board of trustees is engaged and informed about key aspects of project delivery however big or small the organisation.

In smaller, volunteer organisations it will often be the board or a subset of it that delivers the project with appropriate professional and even volunteer support. In larger organisations the staff will often be delegated responsibility to deliver projects but this should only be within clearly defined parameters and with explicit and defined reporting and authority limits. Larger organisations might consider a sub group of trustees with specialist knowledge to have oversight of project delivery, considering greater detail than can be achieved by the board.

Such a group has delegated authority to a clearly defined extent and reports to the main board to an agreed programme and extent.

A project governance structure might look like this:

Case Study

Staying Open During Building Works

Cromford Mills, The Arkwright Experience, funded by AIM Biffa Award

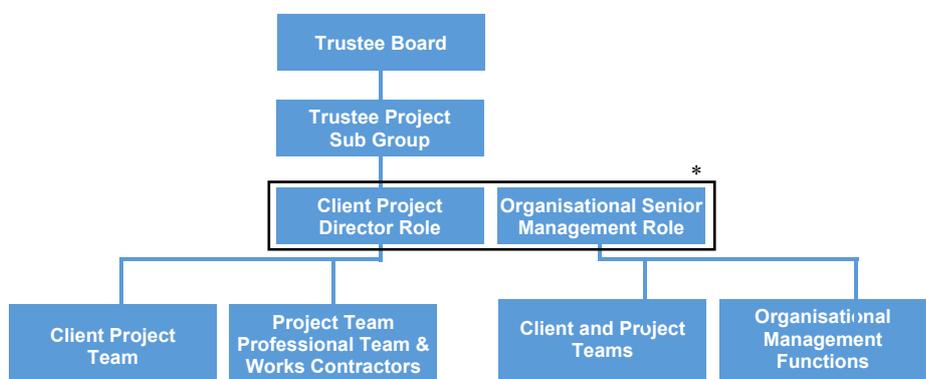
Communication is always key when dealing with a capital works programme - especially when your site remains open to visitors.

At Cromford, we found that the best way to deal with the disruption was to embrace it and to tell the world what was happening, rather than just putting up big unfriendly NO ENTRY signs everywhere.

It took us around 8 months in all to introduce a viewing platform and CGI equipment to create 'The Arkwright Experience' and we were hampered by difficult environmental conditions.

The building in which it is located is arguably the most important on the site - and the one that everybody wants to go in - so restricting entry whilst the work was done meant that we potentially had disappointed customers.

We managed the situation by making sure that visitors were informed about the work as soon as they arrived on site: they understood what we were doing and why and that they were invited to come back as soon as the new experience opened so that they could be some of the first to see it in action. Generally, people are as interested in the new developments as they are the history – but they need to be kept informed and allowed to feel part of the changes.



* This person will usually have permanent responsibilities within the organisation but if the project is very large it might be a specific appointment

The Project Brief

As a good client with a clear vision, you will have written a project brief before engaging consultants or placing contracts. This is the document that sets out exactly what it is you are trying to achieve with your project and what are the absolute essentials of the finished project.

You will need to think about what is really important **to your organisation**. Such things might include:

- Brilliant contemporary design using specific design references like local materials or design features
- Sympathetic design to emphasise an historic building's quality and listed status
- Low carbon impact in development or operation
- Funds available and budget limits to be applied to the capital and activity elements of the project, remembering to consider "client" needs*
- Future operational efficiency and visitor comfort
- Accessibility issues
- Collections care and environmental controls
- Security
- Interpretational styles and approaches to work with the architecture and collections
- Minimisation of future operating costs (staff, utilities, maintenance etc)
- Visitor and staff operational needs (eg staff/volunteer rooms and lockers are surprisingly often overlooked)

There is no definitive list to work to because every organisation will have different priorities and different funding strategies.

The list demonstrates how important it is to consider the actual operation of the finished project as much as the project delivery process itself.

The brief is critical, as the project develops, in helping you manage inevitable change. If a change is suggested or emerges always check the consequence against the brief to be sure that there are no "unforeseen" impacts of the change.

All organisations should have the project brief signed off by the board of trustees and chair, to avoid change later. In smaller organisations the trustees and chair might actually define the brief.

Soliciting the comments of staff and volunteers through structured consultation is always a good idea because their "operational" eye is likely to spot things you have missed.

Many museums that have undertaken capital project will be willing to share their brief with you if you ask. It's always a good idea to ask what they would do differently if they were writing a brief again.

Budget for 'Client' Needs

Your organisation will need a budget for delivering the project beyond the costs of design fees and building works. Many of these items are not included in budgets drawn up by cost consultants (or quantity surveyors), for instance:

- Costs of fundraising and internal project management
- Legal fees and property issues

Early investigations, reports or surveys (e.g. trail pits, asbestos surveys, highways reports)

- Irrecoverable VAT (and professional advice relating to this)
- Furniture and fittings, signage

- Artist's impressions or architectural models – very useful for fundraising and consultations with stakeholders
- Stakeholder consultations and events including the launch party and donor recognition
- An internal client contingency usually not shared with the design team, for the organisation's own requirements to successfully deliver the project and plan for operations after completion



Image courtesy of The Historic Dockyard Chatham

Project Programme is simply the title given to the time taken to complete individual elements of your project and how each of those elements relate to the others combining them to provide the fastest, most efficient, least risky route to meeting all of the outcomes of your brief

Gantt Charts - the bar charts that plot the time taken to complete the elements of your project ordered and linked to maximise efficiency and illustrate issues such as order lead times, elements that rely on the completion of other things before they can start etc.

Critical Path - the time line that joins all of the significant elements of a project that dictate progress, delay in completing a critical path item delays the whole project.

Risk management - the process of identifying what things are likely to negatively impact on the delivery of your project with time and cost implications, how likely these events are to happen and what you can do to prevent or mitigate the risks.

Contingency - a cash or time reserve that is set aside specifically to cover changes, unexpected events or design development as a project develops.

3. Planning Your Project

You know your business better than anyone, with your in-house team start to build your project delivery plan. A good place to start is thinking about the obstacles you may or may not have to negotiate to stay on track.

Programme - A simple timeline for your project helps your team visualise how the project will be delivered and how it may impact on their day to day business. More detailed programmes will be developed as you move through the life of the project, usually by your project manager, and they are essential to the success of the project. These are often shown as Gantt Charts. Analysing these charts identifies where time-related risks exist, interdependency of stages and the “critical path”.

Risk Management - There are many risks associated with delivering capital programmes. Understanding these and rating their likelihood, and significance if crystallised, is essential.

The process is often seen as a “necessary evil”: it is far from an evil but it is totally necessary! If appointed, a project manager will normally lead this process through a workshop that involves the client and professional team, so everyone understands what the risks are and which are most significant. Risks range from financial and programme related, to legal, damage to historic fabric, archaeology or collections, organisational and many more. An experienced project team will quickly identify universal risks but you are best placed to consider specific risks. Once identified, mitigation (*measures that limit or reduce the impact or likelihood of a risk materialising and adversely affecting project outcomes*) and monitoring strategies can be quickly identified.

Risks can also be costed to inform decisions about contingency (see below).

The risk register is a “live” document and it is very important to review it with the team regularly and especially before embarking on specific phases of the project’s delivery, making sure that new team members and disciplines are fully engaged in the process from the start.

Contingency - All projects should have sufficient contingency incorporated into costings and time contingency (or ‘slack’) into programmes, to cover the consequence of foreseeable risk.

This can be as simple as a percentage of budget, the scale of which depends on the potential risks foreseeable, the amount of pre project investigations undertaken and the client’s own propensity to make late changes.

There can be no prescriptive percentage but, because it increases the fundraising targets, most clients underestimate contingency.

Too big a contingency can imply a lack of planning too. On large projects it can be useful to break project contingency down in more defined ways such as:

- Client contingency to facilitate design enhancement and project development in the early phases.
- Ground works contingency where new build works are involved. Ground works can be the most risky elements.
- Activity based contingency which is probably more controllable.
- General project contingency.

- Post opening contingency to fix things that don't work as expected when you start using the completed building or exhibition.

One important way of managing risk is having a strong change management process to deal with changes during the design and construction stages of the project.

They might be changes that have to be made, or that people within the client team wish to make. See the Project Delivery section for more information.

The Project Programme

The Project Manager (PM) has overall responsibility for agreeing and managing the project programme (time line). It is a fundamental tool of successful project management. The client has an absolute responsibility to review this regularly and understand the implications of making changes to it.

Understanding how the different parts of the programme relate to each other, what elements are contingent on delivery of other parts and therefore what the "critical path" is represents essential client knowledge. This should ensure that unintended client led delays are avoided.

The programme must be realistic, include lead times for procurement and reflect the decision making process and time implications that are contingent on it. If things take longer or are delayed, they almost always cost more, especially after building works have started.

Client input into the development of the programme is vital. Key milestones you might want to ensure are included are:

- essential opening dates (perhaps an anniversary)

- funding patterns and absolute cashflow imperatives
- internal resources for content development and design review (your own curators, historians, designers)
- conservation times for key content
- internal time needed to provide detailed information about collections and history to exhibition designers
- local knowledge about planning and other consents
- consultation requirements

Major programme risk areas include:

- Unforeseen ground work delays – archaeology, obstructions, services
- Uncontrolled change
- Unrecognised procurement lead times – especially for software development and hardware procurement
- Lack of ongoing project related fundraising success taking place during delivery. A grant for new display cabinets gets turned down, the fundraising lunch doesn't reach its target
- Loss of key personnel at critical points
- Financial failure of a contractor or consultant
- Poor programme management not recognising likely future delays or errors

4. Appointing the External Project Team

There are more detail about successful procurement in the Appendix, covering:

- Development of Service Briefs
- Procurement and Procurement Rules
- Legal Contracts
- Due Diligence
- Guarantees
- Types of Building Contract

Appointing the Design Team (also called Professional Team or Consultants)

One of the client's key jobs is to appoint the design team and, usually later in the process, the contractor(s) who will do the building/fitout works.

The professional services team are usually appointed first and might include some or all of the following:

- Project Manager (PM)
- Quantity Surveyor (QS) – sometimes called Cost Consultant
- Architect
- Exhibition Designer (best appointed at the same time as the rest of the design team)
- Structural Engineer
- Mechanical and Electrical Engineer (M&E) (with potential additions of acoustic and lighting)
- Access Consultant
- Activity Planner (for HLF funded projects where an Activity Plan is required)

- Business Planner

The briefs you prepare for these team members (see appendix for more information) and the decisions you make in appointing them, will have significant impacts on how well the process of project delivery actually happens, what outcomes you get and how much strain the process puts on the client organisation or conversely how much enjoyment and satisfaction is derived from it.

Happy teams make happy projects, that are generally successful.

Capital projects are demanding and resource heavy with many technical components. If you have an organisation to run or to get ready to operate a new facility post-project completion, it is most unlikely that the client team will have capacity to deliver a significant capital project without support.

Even if it thinks it will have the professional skills and knowledge! Sometimes clients may resent the seemingly high cost of professional fees, but you generally get what you pay for and value comes from how you use the investment in them by managing them well.

Build the realistic costs into your fundraising strategy and build the management time into your resource schedules, to ensure you get the best from the team.

TIP

Resist making a public statement about when you will open your project for as long as possible, as capital projects are delayed more often than not, sometimes by many months.

There is more information about contracts for professional team members and procurement processes and rules in the appendix.

Choosing the Right Team

Cost is only one factor. Lowest cost is not always best value, be sure to weight this factor appropriately.

You will work with this team for a considerable time and it's important, therefore, that its constituent members "fit" the organisation that they work for and that you are comfortable with their operating ethos and approach. Your consultant team should show a commitment to your vision and to listening to you and understanding your needs, so that the final project is not just an architectural marvel, but will be fit for purpose when you come to use it.

That doesn't mean that they just do what you tell them - what's the point of employing creative professionals if all they do is implement your thinking?

The balance is right when the team "buys into" the ethos of the client organisation and then adds professional value to it.

The client needs to show real **leadership**, recognising the separation of that and detailed management, which is for the team to do. The client must be prepared to be challenged and accept different thinking, but this is always best done if there is excellent two-way respect and understanding.

Be very firm in insisting that no appointment is made without meeting those that will actually work on your project and how the effort divides between team members.

A very personable "business development manager" will never be the one who leads your design process – be warned!

Be very careful about the substance that lies behind tender pitches! Find out how much work these specific team members have committed to other projects over the duration of your project. Busy people and teams tend to be attractive but can be over-stretched!

It is essential to undertake appropriate due diligence. Not only things like financial stability, but make sure that the current workforce has actually worked on your type of project, take the trouble to visit projects that they have worked on and find out how the relationship worked or at least speak to others that have used the services, not always the ones suggested by the consultant!

(See the appendix for more on due diligence.)

Be sure about the actual scope of works that it is being offered within the contract. As an example, client's often believe that lighting or acoustic services are provided in M&E contracts because the "company" has those services within its organisation and might even have mentioned them. If they are not specified as included in the services they will be an additional cost!

Often a group of consultants will pitch together as a team. This can be very positive if they have really worked together, that there is a good dynamic with complementary skills but if it is a team stitched together for a specific purpose – to look good to win your project – take care.

More focus on team testing and compatibility is required. Try to identify whether such groupings are true marriages with chemistry and additionality, or “marriages of convenience” to meet the brief, with no track record of working together.

The latter can work but it is obviously more risky, if the

individual members do not share a common ethos to such projects.

Professionals are used to working in new teams on a day to day basis but the client and Project Managers (PM) approach and style of managing the team has a big part to play on the efficiency and buy-in of the team.

TIP

Tips on appointing the design team:

- Investment by tenderers in pitches isn't always backed up by similar investment or commitment to your project – do your due diligence!
- Is there real chemistry within the pitch team dynamic?
- Do you know who will really work on your project? If not find out!
- Cost is only one factor. Lowest cost is not always best value - be sure to weight this factor appropriately
- The track record of the Lead Consultant within a team that is pitching together, is vital information



Picture courtesy of Cromford Mills

Appointing the Contractor

Later on in the project development process you will appoint a Contractor. The same approach to selection that you used with the design team, applies to the contractors and service providers who will physically deliver your project, but by this stage you have a professional team to assist.

Good selection decisions rely on identifying the critical elements of work packages and getting the best team to deliver that.

Construction teams often come as teams of unrelated specialist areas such as:

- Principal contractor (the builder)
- Subcontractors including:
 - Carpentry
 - Roofing
 - Electrical and mechanical Plumbing, heating, lights and power
 - Painting and decorating
 - Specialist equipment suppliers
 - Etc.

See the appendix for more information on appointing a contractor including types of building contract, guarantees and due diligence.

Contract Administrator?

The technical administration of the building contract(s) is not to be taken lightly as get it wrong and you could inadvertently find yourself in a legal challenge or accepting costs that you didn't approve.

A Contract Administrator is only usually required on large and complex projects.

It is a costly service that is there to safeguard the client from future contractual disputes and costs. There are no hard and fast rules about the need but good PMs and Qs will advise. The services are not usually recommended on small projects.

The Architect or the PM are often nominated as the Contract Administrator (CA) or in NEC Contracts PM.

This is an important role in managing the delivery of all contracts. It is worth seeking specialist advice on where this responsibility best sits based on your specific project and your experience.

The CA/PM, although employed by the client/employer, have a neutral role to play between the client/employer and the contracted supplier, so don't expect your Contract Administrator to take your side if things become contractual.

TIP

Tips on Tendering for the Main Contractor:

- Remove as many of the risks associated with capital project delivery by doing as much "de-risking" through surveys and careful development of your plan, before defining the scope of works. A few archaeological trial pits or an asbestos survey, at the client's cost, before contracts are specified might save huge delays and costs later.
- Time spent defining the scope of specification of services and works in advance of contracts being let is rarely wasted and will save delay and cost later
- Design and Build construction contracts are often cost effective, as are Construction Management approaches but both come with risks and resource implications. Don't be seduced by "low" cost, if quality or other measures are key success factors.
- Be prepared to delay going out to tender if the information is not sufficiently developed as it will potentially give greater cost and programme certainty.

Example of topics to cover in a Pre-Start Workshop

Ethos of the project

Things that might be covered by the client include:

- Introductions to your team and their roles within the project
- Purpose of the organisation and the significance of this project to that purpose. This is a big opportunity to inspire the team and build real empathy and interest that leads to the team going the extra mile
- How you like to work with teams; embedded “one team” approach or distant, separate but professional,
- Critical Success Factors for the project, e.g.
- Quality
- Listed building/other statutory constraints and
- Budget and where the priority spend must be focussed if changes are required. It is often a good idea to ring-fence interpretation and fit-out budgets to stop them being plundered to pay for “emergent works”, architectural design development or services requirements.
- Time/programme- are there critical longstop dates?
- Design freeze imperative
- Optimising running costs
- Funder requirements
- Client Communications requirements and protocol – informal / formal reporting

5. Delivering the Project

Building and Leading a Great Team

So, you’ve appointed the professional project team or design team and the work really begins.

All successful projects start with a well facilitated pre-start workshop. The PM will usually organise this and provide the agenda. Whilst much of this will be technical and beginning to look at detail, there are things that the client must show leadership on, so it is a good idea to ensure an early session on the agenda to establish this. If the project team doesn’t understand the ethos of the organisation and how that relates to the capital project and therefore “what success looks like” how can they deliver what you expect?

You need to define this closely and make sure that the whole team understand it and adhere to it.

This will hopefully set the tone of the relationship, inspire the new team, help make it gel as a body and leave no doubt about whose project it is and what is expected. In setting this out you must remember your role in achieving success. Slow decision making, uncertainty about budgets, constant change etc will all impact on critical outcomes. Don’t set a standard you can’t meet yourself.

Managing the Various “Delivery Phases” of a Project

Once all the teams are in place, the roles and responsibilities are established and the communications protocols are agreed all that’s left to do is implement the works!

The design stage and construction stage of the project are quite distinct and need different input from the client team. The design

team will be with you through both stages, and in addition, during the construction stage you will be working with the Contractor (and Contract Administrator, if appointed). You should also be aware that during the Construction Stage you will also be needing to gear up your own organisation in preparation for the opening and this may include time consuming activities such as recruitment, training and much more.

Your need to fundraise will probably continue throughout. In both the design and construction stages, the usual approach to project management is a series of scheduled meetings with different purposes and outcomes.

Make it clear, as client, that you expect to be kept informed of all significant matters in a timely way, meaning that waiting for formal meetings, where there is a significant potential of delay or cost increase as a result of emerging issues, is unacceptable.

The principles of transparency, availability and great communications are central to success.

Meeting Schedules

The PM will be keen to agree a number of meeting schedules. It's important that a client understands what each meeting entails and how involved they need to be and at what level. Standard meetings include:

- Design Team Meetings. These start during the design stage and continue in the construction stage. They are regular meetings where the necessary elements of the design team get together to develop designs, resolve issues and coordinate work. It is always worth appropriate client representation at these at a senior level, capable of making decisions and providing sound information, as well as to control "project expansion" etc!
- Client progress meetings. It is useful for the client to meet with the PM, QS and lead designers between formal meeting to help prepare for them and resolve any issues or conflicts in a less formal environment.
- Trustee reporting – main board or sub-committee
- Funder monitoring meetings, especially HLF
- Progress meetings (construction phase). These are formal and usually monthly and relate to the contractor reporting progress against programme. They are also used to confirm changes and deal with formal Requests For Information (RFI's). They are minuted and contractual, requiring careful preparation and detailed analysis of reports. Words matter at such meetings.

The regularity of meetings will vary as the project progresses based on the needs. It is best to meet more often early in the project when

there are always more risks, greater uncertainty, greater need for information and change.

It is essential that clients recognise this, allow diary time and have decision-making processes in place.

At certain points in the design process the client will be asked to formally sign off the design to that point. Before each sign off a cost estimate should be prepared based on the designs. If this is over budget the client can expect the project manager to work with the design team to bring the costs within budget again.

This is often done through a *Value Engineering* workshop, where the design team (and contractor if appointed) get together to look at how costs can be reduced, with minimum impact on the required outcomes. Most projects require this at some point during the design stage.

Picture courtesy of National Waterways Museum Ellesmere Port



Client Team Meetings

How the client team interacts as a unit will depend on the scale of the organisation and the management ethos.

What matters most is that it is a cohesive and communicative team.

Where there is executive and trustee separation it is essential that trustees are fully engaged and informed. Capital projects often dwarf the scale of annual operations so trustees have a responsibility to be fully engaged, but not necessarily managing. This is especially important should a crisis occur that requires rapid decision making if costs and time are not to be lost. This will require flexibility and accessibility outside usual meeting protocols.

As discussed earlier (see Client Project Team Structure), within the client team it is essential that delegated powers, authority levels and responsibilities are clearly defined and monitored.

Change and Change Management

As projects develop there will always be changes. Change is often a very good thing -improving project outcomes and outputs. But these changes need to be managed or they can become very costly. The implications of the change on the budget, other areas of the project delivery and on the overall outcome of the project, need to be considered before any change is agreed.

The reason for a change may be a discretionary issue - you chose to make a change, or it may be an enforced change, created by unexpected factors such as the discovery of asbestos, archaeology or even legislative developments.

Change rarely comes without a cost, which might arise from a variety of sources including:

- Additional design costs as a consequence (these have to be met by the client)
- Programme delays which always have a cost impact or programme impact whether in terms of fees, contract prolongation and potential delays to opening dates and revenue streams
- Missed procurement deadlines
- Increased build or fit-out costs etc.

Budgets are always limited, Any change that results in more costs will need to be funded from:

- Contingency, the use of which early in a project is very risky and should only be contemplated subject to review of future risks and funder obligations
- Additional fundraising
- Savings made from elsewhere, which can have significant impact on whether the project achieves what you need and intend

The process of managing change is therefore one of the most important elements in creating successful projects. If you employ a project manager they will assist with this.

There needs to be a clearly defined process and very clear authority protocols, both within the client organisation and with the design team and contractor.

Dithering about proposed change can be very costly. The onus is on the client and professional team to manage the change process efficiently and quickly, which relies on good, accurate information and client availability.

As the client you are best placed to fully consider the impact of proposed changes on the overall outcomes of the project. In order to ensure you can respond promptly to requests for change, particularly during the construction stage, ensure someone else from your organisation can make decisions, if the person who normally authorises changes is not available.

Some clients delegate powers to sign off changes up to a certain financial limit to their consultant Project Manager. If you do this, it is essential to define exactly what those powers are. These might include maximum cost of change limits or specific areas where delegated change is acceptable and where it is not. Even if there is some delegation to the PM, the client might want control over all change related to materials used, space planning where there might be unforeseen operational implications, collections or interpretation matters. For instance, a seemingly simple move of a door location at construction phase to facilitate an easier location for a radiator might actually prevent a key operational feature like a display case going where it needs to in order to fit the narrative. The client will understand this but perhaps the PM might not!

The best way to manage change is to try to think through all the project needs when writing the project brief. If all those with an interest in the project, both during delivery and post delivery, have been involved in designing the brief and are consulted if change is proposed, problems should be averted. To achieve this effectively people must be available and engaged.

Tips for successfully managing change within your project:

- Having a **formal process** for change management agreed with all members of the team. As a minimum this must:
 - Identify where the final responsibility lies for agreeing change. Best practice is that this is the client (you) on every occasion, however large or small, meaning personnel availability is critical.
 - Insist that any request for change is supported by a rationale and indicative (net) costs and likely programme consequences
 - Proposals for potential savings to compensate potential programme or cost impacts arising from the proposed change, which should mean that the team works collectively and collaboratively to manage change recognising programme and budget constraints
 - Provide a regular design and client team meeting schedule to agree and discuss proposed changes
 - Provide a process to deal with urgent change requests that fall outside the normal meeting programme
- Agreeing a “design fix/freeze” (*a point in time when no design changes can occur without going through the formal change management process*) as early as possible in the project development both for building and fit-out works. Later changes based on “buildability” etc are still likely but should be manageable from contingency.
- Making it very clear to contractors (within contracts) that unauthorised change will not be paid for.
- Beware the risk of substantial cost implications of a number of seemingly small changes, that together have a major impact.

Crisis Management

You've done your due diligence, you've chosen a great team, the client team is engaged, the briefs were good, the procurement strategy is appropriate, there is programme and cash contingency based on risk analysis - what could possibly go wrong?

The answer is many things. Capital projects introduce huge amounts of uncontrollable factors into an organisation that is probably used to having all the control. Things like a national financial crisis might put seemingly sound contractors at risk of financial collapse, the loss of a key colleague through ill health at a critical moment, the loss of a funding partner and much more, can put outcomes in jeopardy.

All good projects plan to minimise these risks but it is impossible to mitigate them all. What is possible, however, is to have a crisis management approach in place and thought through that is capable of dealing with most situations. If the worst happens, speed of action, open communication lines, careful planning, professional standards and total commitment will be essential. It requires the engagement of senior people and decision makers.

There are some important steps involved:

- The external PM and the client project lead must react immediately
- Arrangements for trustee communication must be in place before the crisis happens
- If the project is halted the site must be secured to prevent theft or damage
- Legal advice must be sought immediately if contractual issues

are involved and all relevant contracts etc must be readily available

- Trustees and other key stakeholders must be informed and engaged
- Key imperatives for recovery must be identified quickly. These might include:
 - Time
 - Budget
 - Potential compromises on quality and scope
- An early assessment of likely costs and programme implications

It is essential that clients understand that they have most to lose in a crisis. The professional team might lose reputation if they are implicated and might have legal penalties to face, but if this isn't the case they will actually receive additional fees to manage the process and as such the client pays ultimately.

No one wants a crisis but some lose more than others!

Case Study

When it all goes wrong!

Crisis Management at The Historic Dockyard Chatham's £9.2m Command of the Oceans (COTO) Project

Chatham Historic Dockyard Trust (CHDT) is very experienced in delivering capital projects but even despite appropriate due diligence, employing experienced teams and applying all the principles of good project management, things can still go wrong.

Just months into the delivery phase of the COTO project, the Main Contractor was placed into Administration, with no warning. It is at these moments that a high quality team earns its fees. It is not a moment to hesitate but to act. The site was secured to prevent theft or damage. Stakeholders and funders were informed.

Once the basics were done the next critical phase was to plan the recovery, prioritising against the original project brief. Critical success factors were identified and agreed by trustees within

one week and shaped the plan going forward. We identified that delaying opening by more than 3 months would result in the key visitor season being missed and the impact of £9.2m spend negated.

So.... speed of action was essential. Minimising the time lost is a good way to save money but it can result in costly procurement.

Finding an acceptable, value based procurement approach was critical in limiting delay and cost....so creative thinking was required. Matching all the original outcomes in terms of quality and services provided within the constrained budgets was impossible....so, even after consideration of the performance bond more fundraising was required.

Having informed funders and stakeholders of the situation immediately, we also set a series of meetings up over the next 3 months to ensure that as our plans progressed we could get sign off rapidly, with our own Board as well as with funders.



Crisis point! Contractor goes into administration leaving Scheduled Ancient Monument suspended in mid-air!

Case Study continued

With a great deal of hard work the team managed to secure approval to proceed with a new contractor within 7 weeks and works commenced again 12 weeks from the site closing. The project opened in May 2016, just, 12 weeks behind the original schedule.

The overall cost was some £700K higher than originally planned due to a range of reasons associated with prolongation of professional contracts, additional work necessary to transfer from one contractor to another, remedial works that were required to correct deficient standards left by others and other matters. The 10% of contract value Performance

Bond Covered approximately £300K of this.

Our funders were patient and understanding. They welcomed our engagement with them and our professional approach to recovery and insurance. The consequence being that we were able to close our funding gap very rapidly and complete the project with all its planned outputs secured. CHDT thank them profoundly for their support.

The project has delivered a major step change in our visitor engagement and service strategy meeting all of the desired outputs.



Mutual respect between client and professional team played a huge part in getting the project recovery plan in place so quickly. From left to right Bill Ferris (CEO, CHDT), Steve Prowse (Project Manager, Artelia), Alan Mitchell (Architect, Baines and Mitchell), Brendan Higgins (Architect, Baines and Mitchell), Bob Dollin (QS, Bob Dollin), Nigel Howard (Estate Manager, CHDT).

Case Study

Underfall Yard

Restoration of the Grade II* Pump House and machinery - AIM/ Biffa Award £120,000

Taking on a project at HLF Round Two (RIBA Stage 4) can be a challenge: everything is in place and it's easy to assume that the hard work has been done and it's just a matter of running with it. But projects are always evolving – be ready for it!

Consultation: whilst consultation takes place during the HLF Round One (development stage) and is an essential part of devising any project, it is important to not make assumptions about stakeholder's awareness of your plans. Tenants, funders, neighbours and consultants on

discrete portions have their own lives and issues to contend with and are not necessarily living and breathing your project the way you are.

Make sure that consultation carries on throughout our project – update not only the new people adding their names to your growing e-bulletin list but keep all your stakeholders in the loop – even if you feel there is not much to tell!

“Always tell the truth and you won't have to remember anything...” base your relationship with your funders on this Mark Twain quote.

They want your project to succeed and they have seen it all before – so keep talking to them, trust their experience and input and let them know about the lows as well as the highs!



Image courtesy of Underfall Yard

Stakeholder Management

This can be one of the most important aspects of the project. If you don't manage communications and keep your stakeholders informed then there is a strong likelihood that your project will be misunderstood or be publicly criticised for disruption caused or simply for lack of communications. The success of a project can be badly affected if the support of stakeholders and communities is lost.

Resourcing the Post Opening Phase

Delivering capital projects can be all encompassing, especially for small organisations. But it is a means to

an end for the client, not a means in itself.

It is exhilarating, time consuming and exhausting - yet the day after completion the day job starts again, often in a wholly new operating environment.

The project team isn't there to help you with that! And you thought you'd book a well deserved holiday.... think again! So, the key is to plan appropriately, programme all the organisational actions necessary and ensure that time and capacity exists, remembering that after the elation of completion there can be team deflation!

And then relax in the knowledge of a job well done!!!!!!

TIPS

- A well thought through service brief leads to good tender outcomes
- Learn from the experiences of others
- Engage your Project Manager early to assist
- Consider the advantages, against the costs, of procurement of separate PM and QS services, with both separate from architectural services, all reporting direct to the client (greater independence and allegiance to the client can result).

Appendix**Index**

Service Briefs
Procurement
Legal Contracts
Due Diligence
Guarantees
Types of Building Contract

Service Briefs

Key to delivering excellent capital projects is to have spent time, often with the Project Manager if appointed early in the process, in developing detailed briefs for all services (e.g. architectural, structural engineering, Mechanical & Electrical engineering etc) to be procured.

Some elements of these are standard and formulaic, but in part they will be specific to how you work as a commissioning client and the actual works required for your project.

Because they inform the tender process, they provide the earliest indication of how good a client you will be, what standards you expect, what the project ethos and outcomes are and how professional the existing team is.

Much can be learned from the experience of others in your networks that have delivered successful projects. People are often happy to share their knowledge.

It is likely that the first brief to write is for the services of the PM who, once appointed, will go on to develop the other briefs with you.

Getting this first one right is fundamental to success with the scope of their role and responsibility critical.

Procurement

Procurement practices relate to all services whether professional teams, individual service providers equipment, construction, fit-out or other project needs.

Agreed procurement policies are an essential part of all successful project management.

The organisation commissioning works and services may have a procurement policy of its own and this must be tailored to incorporate the requirements of funders where public money is involved.

The latter can be onerous and time consuming. Procurement lead times are often longer than expected and are not necessarily consistent over time as market conditions change.

Procurement Rules

Early engagement of professional services such as Quantity Surveyors and Project Managers can be helpful in getting the procurement process right and can help to avoid mistakes and programme delays.

The rules for procurement on projects are covered by procurement regulations and protocols.

Within the public sector and publicly funded projects, if services such as an Architect or works are above certain value thresholds then they are required to be advertised via the Official Journal of The European Union (OJEU).

These relate to competitive advertising, rules for the provision of information and tendering standards.

Too detailed to cover here and potentially something that might change after Brexit, although the principles are unlikely to change much as they are good practice.

There are ways of procuring some things more simply: small works packages (*small elements of a project best carried out by known and trusted contractors directly employed e.g. traditional (signwriting) let without competition, exceptional single tender actions (the work is so specialist that only one contractor exists) where specialist (“unique”) services are required or the use of “approved supplier frameworks” a list of suppliers/contractors that have agreed acceptable rates for certain works agreed as part of previous competitive tendering*) can be valuable and acceptable but this should always be tested against policy, competitiveness, other contractor coordination and funder needs, before committing.

Legal Contracts

Contracts for such services come in a fairly standard format but require careful scrutiny and adaptation to specific needs.

It is important to spend time developing the “schedule of services” which defines exactly what you will receive. This is a client responsibility, don’t expect a lawyer to know what you expect, even if you need one to negotiate for you and to cover the real “legalities”. If you just accept what the consultant suggests, you’ll get what they suggest and not much more in most cases!

First draft Service contracts often favour the supplier. Clearly, the risks associated with entering non favourable contract agreements will depend on the scale and complexity of a project.

It might be perfectly acceptable to simply take a contract as written and not waste money on legal fees but it is never acceptable not to read the contract and look for risk areas.

A good example is the cost related to weather delays. Contractors will often try to pass weather related delays to the client but the client doesn’t need to accept these. It doesn’t take much experience to realise that such delays can be very costly.

The same applies to risks related to ground obstructions when excavations are needed. These can sometimes be passed to the contractor within the contract.

As with all purchasing the old adage of “buyer beware” will set you in good stead.

Procurement Lead Time Tips

- Proper competitive tendering to meet “public funding” requirements is time consuming
- Consider your procurement options early and if necessary take advice as it can save time and costs, but more importantly improve quality and de-risk your project
- Spend time to make sure the scope you’re asking for meets your requirements and no more
- In your plan, build in contingency for the procurement phases
- Understand and plan for long lead-in items such as lifts and display cases
- Due diligence is time consuming but essential.
- Decision making processes often compound lead time problems

Due Diligence

(Due Diligence is the term used to describe the exercise of the duty of care necessary in checking the credentials of all those employed in planning, managing and delivering a project – quite simply are individuals and companies as good as they say, have they done the things they claim, do they have the human resources and time required and are they financially sound, now and for the duration of the project?)

Most clients understand the need for due diligence but don't necessarily think through what is required. There are some basics to consider:

- Financial resilience of the constituent elements of teams. The Principal must be robust but so must significant sub-contractors. Always check that the latest accounts are up to date enough to reflect the current situation. Seemingly successful, fast growing contractors are often vulnerable to cash flow issues but seem attractive because they are successful
- Do they pay their sub-contractors on time?
- Do they have a reputation for being contractually minded in an attempt to increase income at the client's expense? Talk to other clients and be sure their tender meets the work specification fully.
- Do they have a good reputation for completing on time?
- Do they have a good reputation for working with other disciplines?
- Have they actually done what they say they have? Don't just rely on their preferred referees.

Go and look at jobs they have done and talk to clients.

- Is the team before you the one you will actually work with and is at a team that relates to the references given? New teams can be difficult to work with.
- How much other work have they got on and do the resources available meet those they say will be there to work on your project? Over-stretched teams don't deliver well.
- Do they understand the specialist working environment that museums and heritage sites provide? Listed buildings, collections care, archaeological sensitivity and empathy

Your due diligence will depend on scale of project, type of project organisational approach to risk and many other factors, but always think about what's needed well in advance of tenders and make arrangements accordingly if delay is to be avoided or short-cuts taken.

Guarantees - Parent Company Guarantee and / or Performance Bonds

At the time of procurement, particularly of significant works contracts, it is advisable to stipulate that the tenderer is to confirm that they are willing to provide a Parent Company Guarantee (PCG) and or a Performance Bond (PB) within a certain number of days of appointment.

In simplistic terms; If a contractor has a parent company and the contractor gets into difficulty and has to go into Administration or Liquidation then if you have a PCG the parent company remains liable to complete your project.

If the Contractor does not have a Parent Company then a Performance Bond will provide you with an insurance.

Getting a PCG and a PB is good thing because, if a contractor has a Parent Company and you only have a PB, the parent company could strip assets from the contractor before it announces that the contractor has gone into

Administration leaving little for the contractor's creditors to claw back.

A performance bond is insurance taken out at the beginning of a project to assist recovery of costs in the event of a crisis.

They traditionally cover up to 10% of the main contract cost.

Such insurance might seem excessively expensive and unnecessary if you have recruited a great team and planned carefully, but things do go wrong because of the many external factors discussed and the bond can represent the difference between completing a successful project and not doing so.

If things go wrong it is absolutely essential that all costs resulting from the problem are collated and evidenced.

The bond will only pay out on proof of legitimate additional costs which can be significant.

Great project and financial management of the minutiae remains essential when all around you seems to be crumbling!

TIP

Once you have your signed Parent Company Guarantee and or Performance Bond LOCK it in the safe! If you have to draw on them it's as good as a cheque



Image courtesy of Brunel Museum

Types of Building Contract

Contracts for the delivery of the capital project itself come in a variety of forms. Professional advice should always be sought before entering into contracts. For example four options that may be considered are:

1. Construction Management. Here the client effectively assumes the responsibility of "Principal Contractor" working with a number of individual small contract packages. This can be highly cost effective but the role of "Principal Contractor" is an onerous one that should not be taken lightly with risks such as; health and safety responsibility, contractor coordination, delay etc resting with the client.
2. Traditional Principal Contractor based contracts where a contractor tenders to deliver a carefully defined package of works, covering several professional disciplines, for a given price. There are different contract forms that can be used, some more favourable to the client than others. The client can specify the form of contract which can be of benefit. The key with these contracts is to define the work content as closely as possible to prevent the need for later changes, additions or delays through omissions. Your professional team must be managed carefully to achieve this.
3. Design and Build Contracts (D&B). Such contracts tender for an overall programme of works and capital outcomes to be delivered by the contractor in the way that they see most effective for a given price. These contracts are often very competitive and good value for money but there are risks

especially in relation to quality standards, materials used and consistency of design details because the contractor has more control over how the capital works are designed and delivered. Unless very carefully defined such standards might not be those desired because the contractor might seek to maximise profit through minimising cost rather than delivering a better outcome defined in ways other than cost.

4. Hybrid of the above.



Image courtesy of The Historic Dockyard Chatham



**Association of
Independent
Museums**

Helping Heritage
Organisations Prosper



Building communities. Transforming lives.

Association of Independent Museums (AIM)
3 Chestnut Grove
Ludlow, Shropshire SY8 1TJ

AIM Editor – Tamalie Newbery

www.aim-museums.co.uk

Copyright © 2017 Association of Independent Museums