

Welcome to the Restoration Work Stages!

Planning for the restoration or construction of a new waterway is complex. The process takes many years, involving many people and organisations. No two waterways will be the same or face the same challenges. However there are core tasks of feasibility, design and construction that need to be completed within any waterway restoration project.

The Canal & River Trust has worked with The Inland Waterway Association to set out these core tasks into key work stages - each with clear boundaries, and details the tasks and outputs required at each stage. The work stages are aligned with the RIBA Plan of Work (2013) to ensure compatibility with construction industry standards. It is a reference document for all those involved in planning the restoration or construction of waterways.

Key Documents

Each work stage will link you to key documents from other waterway projects. These provide models of good practice and hopefully, inspiration.



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Introduction to the work stages

Defining the project and the stages it is broken into is the first critical action. Each stage acts as a milestone for the projects development, ensuring that essential information is available at the appropriate time.

The work stages in this document suggest an order of work but we acknowledge that delivery of a full waterway restoration is not necessarily a straight forward sequential process. The content of each stage will certainly vary or overlap to suit your specific requirements of projects. Sections of a waterway will undoubtedly be completed in different phases and this inevitability requires repetition and refinement of some tasks. We have therefore divided the work stages into two phases.

The work stages

Royal Institutes of British Architects fully aligned with the RIBA Plan of Work(2013), which in turn is agreed with a set of unified industry stages from the Construction Industry Council (CIC). This ensures compatibility between those involved in planning construction projects and also aligns with requirements of strategic funders. We have labelled our workstages with letters to avoid confusion with the RIBA eight work stages. The numbers in brackets correlate to the RIBA Plan of Work (2013). (<http://www.ribaplanofwork.com/Default.aspx>)

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Phase 1 Defining the project as a whole

It is envisaged that the initial work stages **A-C** are likely to be 'one off' stages which will allow the project to be developed to a point where it's possible to show a clear delivery strategy with phasing for the whole of the waterway. Stage D is about preparing for delivery.

Phase 2: Delivery of project or project elements

Work stages **E-H** are likely to be repetitive as different sections of the waterway are brought forward for restoration. Ongoing strategic work will be required to ensure that focus on the unrestored elements is not lost and that there is continued support from all partners.



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Phase 1 Defining the project as a whole

A. Strategic Definition (0) – The restoration is strategically appraised and designed. A vision of the future of the waterway is developed which sets out clear goals, makes a case for why the restoration should happen and outlines the desired route on a map.

B. Scoping & Evaluation (1) – Setting out what you have got to work with - where are the opportunities and what are the threats. Making sure that the line is safeguarded within the Local Authority's Local Plans.

C. Concept Design (2) – What are you working towards, providing the evidence and making the detailed case for restoration. A greater understanding is developed of what assets you are working with (built and natural environment, water resources) and how they could be managed including for financial sustainability. Outline engineering designs are produced (sufficient for initial costings for build and maintenance). Partnerships for developing and delivering the projects are initialised. Action is taken to begin to gain more public support for the project.

D. Transitional Stage: Preparing for project delivery – Review the information collected to date and prepare a strategic plan for the delivery of the whole project. This includes decision on phasing, allocation of work elements to volunteers or contractors and short, medium and long term funding goals. Partnerships for developing and delivering the projects are formalised.

Phase 2 – Delivery of the project. Applies to each phase of delivery or every identifiable sub-project

E. Developed Design (3) – Developing the design of specific sections and obtaining the necessary permissions. Preparation of information in sufficient detail to enable the project to commence.

F. Detailed & Technical design (4) – Finalise the build design and draw up the contract.

G. Construction (5) – Issuing of information to the contractor. Letting the building contract, appointing the contractor or volunteers. Administration of the construction contract to Practical Completion.

H. Handover/use/aftercare (6 & 7) – Administration of the construction contract after Practical Completion.

Design and Build Contract is designed for construction projects where the contractor carries out both the design and the construction work. If you are proposing to use this route it will affect when you apply for planning consents. Many clients may seek to secure outline planning permission before committing to significant expenditure.

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[Design and Build](#)
Elements identified at Stage D appropriately delivered through Design and Build Contract will effectively combine Stages E, F & G



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Task Bars

The tasks are sets of linked activities that are key to driving the project forward. Here we outline nine key recurring themes, this is not a conclusive list of all activities but sets out the key outputs required at each stage. These will vary from project to project depending on the specifics of the project; often requiring different focus at different times within the project development and delivery.

1. Headline Project Management. These are the significant tasks for project development.

2. Governance/Procurement. Governance needs to be appropriate for raising funds, procuring the construction/delivery works and the ongoing sustainability of the waterway. The project will at time require differing governing structures and the governance model may be required to change throughout the life of the project.

3. Land ownership. Land ownership and securing access to land for restoration can be complex. Having landowners on side is essential and discussions need to start early in the process. However, it must be acknowledged that delivery may take several years and expectations will need to be managed.

4. Water management. Water resources (supply and demand) and also flood risk management needs to be thought about in the earliest stages of a project. It should not be assumed that adequate water supplies will be available via a connection to the existing inland waterway network.

5. Built Heritage and Natural Environment.

This task sets out the complex actions required for protecting, conserving and enhancing the built and natural environment.

6. Communication and Involvement. A restoration cannot happen without the backing and involvement of key stakeholders including the local community. This broad category sets out project promotion goals such as when you need to engage key stakeholders, develop a dedicated programme for involvement of the wider community, as well as getting the word out.

7. Fundraising. Essential to progress but dependent on other key factors being in place i.e correct governance, evidence of all the strategic project planning and community, business and political support for the project.

8. Planning Consents. Negotiations to safeguard the line of the waterway need to happen early in the planning for restoration. Embedding the ambition to restore the waterway in Local Plans is crucial to safeguarding the line. It is acknowledged that there is some flexibility on when full planning applications will be made (between C-E).

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Defining the project as a whole		Work Stages
Tasks	A (0) Strategic Definition Establishing a vision	
Headline project management tasks	Establish a <u>VISION</u> and justification of work. Include in this what you want to achieve or accomplish in the mid-term or long-term future through the restoration of the waterway. It should include a description of the added value that the restoration will bring.	
Governance and appropriate procurement	Local restoration group Raise support - build	
Construction/ engineering	Map line/points of interest Explore current risks, threats & opportunities including long term financial opportunities and commitments	
Land ownership	Establish land ownership Establish existing utility crossings and way leaves which may impact on plans	
Water management	Establish where the water supply might come from and likely water demands, plus main flood risks	
Built heritage & natural environment	Compile a brief history of the built heritage of the waterway Compile a brief outline of the natural environment along the waterway	
Communication and involvement - getting others involved	Identify local and national groups who might have an interest	
Fundraising	Broad understanding of possible funding sources	
Planning consents	Ascertain if the route of the waterway is safeguarded within the local plan Understand ambitions of local plans	
Documentation outputs	Vision statement Map of line - with key points of interest Outline of built and natural environment Line of the canal & linking canals Register of land ownership	

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Defining the project as a whole		Work Stages
Tasks	B (1) Scoping & Evaluation What you have to work with	
Headline project management tasks	Scope out the wider benefits- community/economic/environmental Scope income generation opportunities/ongoing maintenance liabilities Set up principles of restoration, design and delivery	A
Governance and appropriate procurement	Formalise restoration group as a trust or society Informal ad hoc partnership with key stakeholders	B
Construction/ engineering	Engineering Feasibility - can it be done? Scoping study of how many miles of channel, how many locks, bridges, etc. along the proposed route, Complete Asset Register	C
Land ownership	Seek out landowners. Hold preliminary discussions, identify if there are any opportunities for purchase or potential show stoppers (use traffic light system)	D
Water management	Initial flood risk assessment Initial estimate, scoping of boat traffic and other demands on water	E
Built heritage & natural environment	Scoping assessment of historic environment - archaeology, history and heritage (listed buildings etc) Scoping assessment of natural environment (SSSI's, LNR etc.)	F
Communication and involvement - getting others involved	Identify audiences and potential users of the waterway Develop a communication plan with named contact point and key messages Initial consultation with other interest groups and stakeholders	G
Fundraising	Ensure <u>appropriate governance</u> Fundraising for feasibility studies	H
Planning consents	Informal discussion and enquiries Identify developments which may require consents	
Documentation outputs	<p>Project summary informed by a</p> <ul style="list-style-type: none"> Social & economic benefit Natural environment management Archaeological & heritage management Water resources study & initial flood risk assessment Governance document Communication plan 	

You will need to consider what is the most appropriate governance model e.g. Registered charity, company limited by guarantee, community interest company, depending on what responsibilities the group will have. The model may need to change as the project develops and the group's roles and responsibilities change. At a minimum the group should have a constitution and independent bank account.

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Defining the project as a whole		Work St
Tasks	C (2) Initial Design What are you working towards	
Headline project management tasks	Initial design concepts Initial Waterway sustainability plan	The Waterway Sustainability plan sets out the rationale for the restoration of the waterway. It will draw together the feasibility and outline costs of the restoration, set out the benefits of restoration with an outline of how the waterway will be operated and maintained post restoration
Governance and appropriate procurement	Review governance structure for the Partnership further developed and a	
Construction/ engineering	Outline engineering design with ECI. Consider implications of CDM Develop initial risk register Steady state (cyclical main	The Construction (Design and Management) Regulations (CDM Regulations) are intended to ensure that health and safety issues are properly considered during a project's development. The aim is for health and safety considerations to be treated as a normal part of a project's development, not an afterthought or bolt-on extra.
	It is essential that the long term cyclical maintenance costs of a waterway are properly understood and allowed for in any income and expenditure predictions. The purpose of a 'Steady State' plan is to set out the maintenance works and their cycle and to calculate what should be spent and set aside each year to cover their costs.	
Communication and involvement - getting others involved	Getting the word out - develop and implement a plan for meanwhile uses of interpretation, volunteering and maintenance	Meanwhile uses are what you will do whilst working towards full restoration, which may take many years; You should include how you will maintain any existing infrastructure or assets, how you will get and keep the local community informed and involved and how you will keep the heritage alive through interpretation.
Fundraising	Seek small scale funding for start-up projects / ongoing detail design etc.	
Planning consents	Initial design integration into locality (sense of place) / ro within local plans Formal pre-application enquiries for key elements	
Documentation outputs	Waterway sustainability plan Partnership agreement Meanwhile use plans Initial built heritage & natural heritage plans Communication and marketing plan	

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		Transitional Stage	Work Stages
Tasks		D Planning for Project Delivery How you'll get there	
Headline project management tasks		Agree phasing for delivery Develop business plan for project or project element Establish long term maintenance requirements	A
Governance and appropriate procurement		Formalise partnership. Agree delivery arrangements and if necessary, set up legal delivery body Commence contract development If Design & Build Stage C output issued for tender	B C
Construction/engineering		Draw up briefs for specialist design	D E
Land ownership		Agreement in principle for land transfer	F
Water management		Secure approvals, agreements and licenses for water abstraction Discuss and agree flood mitigation works	G H
Built heritage & natural environment		Update management plan Detailed consideration of built heritage	
Communication and involvement - getting others involved		Ongoing maintenance Meanwhile and communication Develop <u>Activity Plan</u>	
Fundraising		Develop broad fundraising strategy development of individual bids If applicable round 1 bids	
Planning consents		Prepare outline planning application for project as whole Prepare planning application and, if applicable, building consent application for first phases or project element	
Documentation outputs		Restoration strategy for phased delivery Initial business plan for project or project element Fundraising plan & funding bids Briefs for specialist works Wayleave agreement to lease /license	

It is a plan that sets out everything that you will do as part of your project to engage people that is not part of your capital works. You will need to set out what you hope to achieve, which groups you will work with and why and what you want to achieve. This is a document that is required by funders such as the Heritage Lottery fund. Please see <http://www.hlf.org.uk/activity-plan-guidance>

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Tasks	Applies to every idea	of delivery	Work Stages
	E (3) Developed Design What you will build	A quantity surveyor (QS) is a professional working within the construction industry concerned with construction costs and contracts. Sometimes known as cost consultants.	
Headline project management tasks	Design developed to a point where a quantity surveyor can be sought Undertake detailed <u>QS</u> Finalise full business plan for project or project element		A
Governance and appropriate procurement	Delivery by a Project Manager(s) <u>Traditional</u>	In the traditional procurement method the design process is separate from the construction (although some forms of contracts provide for design of specific parts of the works to be carried out by the contractor). Full documentation (i.e. drawings, work schedules, bills of quantities) must be supplied by the client before the contractor can be invited to tender for carrying out the work.	B C
Construction/engineering	Detailed design costings and		D E
Land ownership	Wayleaves		F
Water management	Outline technical specification for water control structures and any flood mitigation works Functional design specification agreed for any monitoring and automation of water control & measurement		G H
Built heritage & natural environment	Environmental Impact Assessment and such studies are required for developing the Conservation Management Plan (CMP) Consultation with stakeholders on built, natural and heritage plans		
Communication and involvement - getting others involved	Ongoing maintenance of the line Meanwhile and communication uses continued Develop Activity Plan including audience development plan		
Fundraising	Commence match funding search and submit major funding bids for delivery specific phases		
Planning consents	Prepare Outline Planning Application for project as whole Prepare planning application for first phases or project element		
Documentation outputs	Final business plan for the project or project element Detail engineering drawings Conservation Management Plan Design Access Statement Funding bids		

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Applies to every identifiable sub-project or phase of delivery		Work Stages
Tasks	F (4) Detailed Technical Design & Major Funding	
Headline project management tasks	Build drawings, QS and contract specifications	A
Governance and appropriate procurement	Preparation for project delivery: Preparation of briefs for letting of contracts for the project, individual elements or phase	B
Construction/engineering	Finalise design to building drawing (contract letting) stage Undertaking final detail QS estimates	C
Land ownership	Purchase of land or agreement of way leaves/leases/licenses completed	D
Water management	Detailed technical/engineering design of all water supply schemes, water control structures and any flood mitigation works	E
Built heritage & natural environment	Management plans finalised and formally adopted by partners	F
Communication and involvement - getting others involved	Ongoing maintenance of the line Meanwhile and communication uses continued Develop Activity Plan including audience development plan	G
Fundraising	Secure match funding and or individual project sponsorship Legacy implementation plan	H
Planning consents	Submit planning application	
Documentation outputs	Technical drawings QS estimates Contract specifications Planning application & supporting documentation	

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Applies to every identifiable sub-project or phase of delivery		Work Stages
Tasks	G (5) Construction	
Headline project management tasks	Commence phased construction work	A
Governance and appropriate procurement	Project Delivery. Administration of volunteer led projects or building contracts Project management of individual elements of phases	B C
Construction/engineering	Letting and administration of contracts for individual phases or elements Offsite manufacturing of portable elements (e.g. lock gates)	D E
Land ownership	Close liaison with landowners under lease or license	F
Water management	Phases to include consideration of flood risk to and from sites during construction (e.g. temporary abstractions, flood risk to works)	G
Built heritage & natural environment	Protection and monitoring of the environment	H
Communication and involvement - getting others involved	Ensure continuous volunteer engagement Activity Plan implemented for construction phase	
Fundraising	Funding secured, spend monitored	
Planning consents	Discharge of planning conditions	
Documentation outputs	Build & site drawings & specification Project delivery programme with associated risk assessment, method statements, health & safety plan	

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Tasks	Applies to every identifiable sub-project or phase of delivery	Work Stages
	H (6&7) Hand over/Use/After care	
Headline project management tasks	Conclude administration of volunteer led project of building contract Maintenance and monitoring commence Economic and social Impact assessment	A
Governance and appropriate procurement	Maintenance and monitoring commence Economic and social impact evaluation	B
Construction/ engineering	Snagging and practical completion	C
Land ownership	Temporary access or wayleaves restoration conditions discharged	D
Water management	Production of Water Control Manuals (operational guides) for routine and flood/drought control Establish and maintain procedures for compliance & reporting against any abstraction licences	E
Built heritage & natural environment	Review management plans	F
Communication and involvement - getting others involved	Continued community involvement Activity Plan for active use phase implemented	G
Fundraising	Complete reports to funders	H
Planning consents	Completion and sign off as required	
Documentation outputs	As built drawings and surveys of all relevant structures/assets Water Control Manuals	

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Plan of Work	Defining the project as a whole			Transitional Stage	Applies to every identifiable sub-project or phase of delivery			
	A	B	C	D	E	F	G	H
Work Stages	(0) Strategic Definition	(1) Scoping & Evaluation	(2) Initial Design	Planning for Project Delivery	(3) Developed Design	(4) Detailed Technical Design & Major Funding	(5) Construction	(6&7) Hand over/ Use/After care
Tasks	Establishing a vision	What you have to work with	What are you working towards	How you will get there	What you will build & how			
Headline project management tasks	Establish a VISION – a clear statement of what you want to do and justification of why it should be done. Include in this what the benefits are to the wider community	Scope out the wider benefits: community/economic/environmental Establish income generation opportunities, ongoing maintenance facilities & principles	Initial design concepts Waterway sustainability plan	Agree phasing for delivery Develop business plan for project or project element Establish long term maintenance requirements	Design developed to a point where planning applications can be sought. Undertake detailed OS estimates Finalise full business plan for project or project element	Build drawings, OS and Contract specifications	Commence phased construction work	Conclude administration of volunteer led project of building contract Maintenance and monitoring commence Economic and social impact assessment
Governance and appropriate procurement	Local restoration group established Raise support - build credibility for your vision and for your organisation	Formalise restoration group as a trust or society Informal ad hoc partnership with key stakeholders	Review governance structure for the group to ensure it is fit for purpose Partnership further developed and agreement on project lead	Formal Partnership sets up legal delivery body or legally agrees on delivery arrangements Contract development if Design & Build Stage C output issued for tender	Delivery body becomes responsible body for project and appoints Project Manager(s) if not already in post Traditional route tender procurement procedures commence	Preparation for project delivery Preparation of briefs for letting of contracts for the project, individual elements or phase	Administration of volunteer led projects or building contracts Project management of individual elements or phases	Maintenance and monitoring commence Economic and social impact evaluation
Construction/ engineering	Map hotspots of interest Explore current risks, threats & opportunities including long term financial opportunities and commitments	Engineering Feasibility – can it be done? Scoping study of how many miles of channel, how many locks, bridges, etc. along the proposed route, what condition Asset register completed	Outline engineering design with initial cost estimates Consider implications of CDM Develop initial risk register Steady state (cyclical maintenance) costs calculated	Draw up briefs for specialist design	Detailed design of key elements or structures to improve crossings and to enable works if opportunity arises	Finalise design to building drawing (contract letting) stage Undertaking final detail OS estimates	Letting and administration of contracts for individual phases or elements Offsite manufacturing of portable elements (e.g. lock gates)	Snagging and practical completion
Land ownership	Establish land ownership Establish existing utility crossings and wayleaves which may impact on plans	Seek out landowners. Hold preliminary discussions identify opportunities and show stoppers (see traffic light system)	Initial land take requirements Clarify needs for land acquisition both for the line and for any access land, etc.	Agreement in principle to land transfer	Wayleaves, leases, licenses developed	Purchase of land or agreement of wayleaves, leases, licenses completed	Close liaison with landowners under lease or license	Temporary access or wayleaves restoration conditions discharged
Water management	Establish where the water supply might come from and likely water demands, plus main flood risk concerns	Initial flood risk assessment Initial estimates, scoping of boat traffic and other demands on water	Undertake water resources study and full flood risk assessment	Secure approvals, agreements, licenses for water abstraction Discuss and agree flood mitigation works	Outline technical design and specification of all water supply schemes, water control structures and any flood mitigation works. Functional design specification agreed for any monitoring and automation of water control & measurement	Detailed technical/engineering design of all water supply schemes, water control structures and any flood mitigation works	Phases to include consideration of flood risk to and from sites during construction (e.g. temporary abstractions, flood risk to works)	Production of water control manuals (operational guides) for routine and flood/drought control Establish and maintain procedures for compliance & reporting against any abstraction licenses
Built heritage & natural environment	Compile a brief history of the built heritage of the waterway Compile a brief outline of the natural environment along the waterway	Scoping assessment of historic environment - archaeology, history and heritage (listed buildings etc.) Scoping assessment of natural environment (SSSIs, LNR etc.)	Maintain existing built heritage and natural environment Initial built heritage management plan and natural heritage management plans	Update management plans as circumstances dictate Detailed consideration of long term maintenance requirements	Environmental Impact Assessment & such studies are required for developing the Conservation Management Plan (CMP) Consultation with stakeholder on built, natural and heritage plans	Management plans finalised and formally adopted by partners	Protection and monitoring of the environment	Review management plans
Communication and involvement - getting others involved	Identify local and national groups who might have an interest	Identify audiences and potential users of the waterway Develop a communication plan with key messages	Getting the word out - develop and implement a plan for 'meatballs' uses of interpretation, volunteering and maintenance and marketing plan	Ongoing maintenance of the line Meanwhile and communication uses continued Develop Activity Plan including audience development plan		Ensure continuous volunteer organisation Activity Plan implemented		
Fundraising	Broad understanding of possible funding sources	Ensure appropriate governance for fundraising Fundraising for feasibility studies	Seek small scale funding for start-up projects/ongoing maintenance, detail design etc	Develop broad fundraising strategy and apply for funding for major projects	Develop and submit major funding bids for delivery specific phases Commence match funding search	Secure match funding or individual project sponsorship Legacy implementation plan	Funding secured, spend monitored	Complete reports to funders
Planning consents	Ascertain if the route of the waterway is safeguarded within the local plan Understand ambitions of local plans	Informal discussion and inquiries regarding planning permissions Identify developments which may assist or impact on restoration	Initial design integration into locality (sense of place/route protected within local plans Formal pre-application enquiries for key elements	Prepare outline planning application for project as whole Prepare planning application and, if applicable, listed building consent for first phase or project element		Submit planning application	Discharge of planning conditions	Completion and sign off as required
Documentation outputs	Vision statement Map of line - with key points of interest Register of landownership Outline of built and natural environment Line of the canal & linking canals	Project summary informed by a series of scoping studies including: Social & economic benefit, Natural environment management plan, archaeological & heritage management plans, Water resources study & initial flood risk assessment, Governance document, Communication plan	Waterway sustainability plan Partnership agreement Meanwhile use plans Initial built heritage & natural heritage plans	Restoration strategy for phased delivery Initial business plan for project or project element Fundraising plan & funding bids Briefs for specialist works Wayleave agreement to lease/ license	Final business plan for the project or project element Detail engineering drawings Conservation Management Plan Design Access Statement Funding bid	Technical drawings OS estimates Contracts specifications Planning application & supporting documentation	Build & site drawings and specification Project delivery programme with associated risk assessment, method statement, health & safety plan	As built drawings and surveys of all relevant structures/assets Water Control manuals



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