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Part 9:            Design Principles:  
                      Design as Conservation Management

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# 9 Design Principles: Design as Conservation Management

## 9.1 Introduction

- 9.1.1 The Chesterfield Canal is an historic structure. Like all such structures it has undergone many changes from its original condition through repair, addition or replacement and through the neglect, benign and otherwise, which afflicts all structures during their working lives or following disuse or abandonment.
- 9.1.2 The presence of the canal in the landscape has helped to shape settlement, industry and other transport links – in turn these activities, through encroachment and development, have shaped the canal as we see it today. In consequence much of the character of the route today comes from its relationship with the surrounding built heritage.
- 9.1.3 The longevity of the canal means that it has become a significant landscape feature which has developed, and in many places retains, a diverse flora and fauna. Through its long decline and partial abandonment, significant portions of the canal and its immediate environs have become a linear wildlife habitat and reserve. The unrestored canal provides an important wildlife corridor which makes a significant contribution to the regions green infrastructure.
- 9.1.4 It is therefore obvious that the heritage and ecology of the canal shape the character of the waterway we see today. To preserve the essential personality of the Chesterfield Canal, it is necessary to fully understand the built and natural heritage resources of the waterway and then to take these into account in planning for restoration and new construction along its length.
- 9.1.5 To that end, the project will be guided by a series of widely accepted conservation management principles based on those which have been employed by British Waterways in the restoration design of the Chesterfield Canal from Shireoaks to Kiveton Park, the Droitwich Canals, the Cotswolds Canals and the Montgomery Canal.
- 9.1.6 These principles govern the general approach to restoration and reinstatement which will be followed by the project. They integrate local strategy and central and local government policies which govern the treatment of the built and natural heritage.
- 9.1.7 This conservation-led vision for the regeneration of the waterway accords with the stated policy aims of the local authority members of the Chesterfield Canal Partnership. It also accords with British Waterways' general policy aims, the funding principles of the Heritage Lottery Fund and those of the Waterways Trust.
- 9.1.8 This chapter provides a summary of the conservation principles which underpin the reinstatement design and which effectively form a conservation management strategy for the Killamarsh to Kiveton Park section.
- 9.1.9 These conservation management policies relate both to the treatment of the existing built and natural heritage and to the creation of new structures and habitats.

## 9.2 Conservation Management Objectives

9.2.1 The core conservation management objectives are to create a canal which is:

### Sustainable

9.2.2 The project must employ materials and methods which are based on sustainable local resources, which can be demonstrated to have long life spans and which will be easy to maintain.

9.2.3 The resultant waterway must be internally sustainable and able to contribute to the environmental, social and economic sustainability of the surrounding communities.

### Sympathetic

9.2.4 The design must respect the heritage and ecology of the canal. It must specify methods and materials which are entirely compatible with the setting, context, original materials and existing flora and fauna.

### Honest

9.2.5 While the methods and material should be sympathetic to the character and setting they must also be clearly differentiable from ancient work. Repair and reconstruction should not result in pastiche.

### Accessible

9.2.6 The restored waterway must be fully and safely accessible to all sectors of the community and must be welcoming to all both physically and intellectually.

### Engaging

9.2.7 The restored waterway must be a place which is inclusive and engaging to all sectors of the community. Engagement is the prerequisite for community and volunteer input to both restoration and long term maintenance and management.

### Local

9.2.8 The project will be designed so as to enable local delivery wherever possible and will work to maximise local investment and economic returns.

### Innovative

9.2.9 The project will be committed to innovation and to the testing of new approaches to restoration, construction and long term management.

### Of High Quality & Standards

9.2.10 The design solutions will be of a high quality and will take account of whole-lifespan carbon-balance and environmental impact costs.

9.2.11 The delivery of the project will be guided by a firm commitment to (1) a best value approach to procurement, (2) the highest standards of financial accountability and (3) a strong emphasis on delivery to timescales.

## 9.3 Guiding Principles

9.3.1 The guiding principles are statements of intent – they describe how the project will deal with key issues in the conservation and management of the natural and built heritage of the canal and how these will be balanced against access and development.

9.3.2 The principles cover four key areas:

- Heritage
  - Archaeology
  - Landscape Heritage
  - Built Heritage / Standing Buildings
  - Community Heritage
- Environment
  - Landscape
  - Ecology
  - Water
- Access
  - Access for All
  - Access to the Towpath and banks
  - Access to the Water (including navigation)
  - Access to knowledge & understanding
- Regeneration
  - Economic
  - Social

9.3.3 The principles employed on the Chesterfield Canal are based upon established practice on environmental and heritage projects throughout the UK, Europe and North America. It will be self evident that there will be considerable overlap between these areas and that actions specified in different areas should be complementary and compatible. The principles should therefore reduce conflict of priorities between areas

## **9.4 The Built Environment & Heritage**

9.4.1 Understanding of the heritage of the Canal corridor depends upon evidence from many different sources and this is reflected by the overlapping principles which govern the treatment of the resources of the archaeological, built heritage and historical records.

9.4.2 In common with all recent heritage projects, the Chesterfield Canal restoration has adopted a reflective, iterative, approach based upon:

- Assessment
- Recording during works
- Clear identification of modern works
- Monitoring and continued assessment

9.4.3 The monitoring and continued assessment informs subsequent actions and interventions and allows the gradual evolution of methods best suited to the location and the heritage in question.

- 9.4.4 Much of the early history of the canal is traceable through company records (see Hadfield 1970, Roffey 1985, Richards 1992 & 1996). Excellent though these records are at understanding the politics behind the canal, they regrettably lack detail when it comes to how the canal was actually built and the methods and techniques employed. Reinstatement therefore offers the opportunity to uncover and recover physical evidence that is expected to be highly significant in terms of the history of both the canal and civil engineering.
- 9.4.5 The archaeological record includes all physical remains of the past. These may be ephemeral traces or substantial structures and therefore there is considerable overlap with the treatment of the built heritage. Reinstatement will require that works are undertaken to historic structures. The conservation-led approach adopted to restoration is governed by the Built Heritage Policies.
- 9.4.6 As noted above, the historical record of the canal is extensive and has been relatively well documented. During the restoration project work will be undertaken to expand, deepen and make accessible this historical record, and to diversify it by paying attention to community and oral history relating to the canal and the communities it served. Oral history in particular is a vanishing resource and should be collected in such a way as to be accessible to both the public and future researchers.
- 9.4.7 The following general policies and principles will be adopted in relation to all work likely to have an impact on the built heritage of the canals, whether in the form of new construction, restoration or maintenance:

### **Archaeology**

- 9.4.8 Before works of restoration or development are commenced an assessment must be made of the potential impact that such works will have on the archaeological resource of (1) the Canal Track and (2) the Canal Corridor. This should be done with reference to existing archaeological baseline information (Chesterfield Canal Heritage Survey, Sites and Monuments Records and any other field or desk based assessments which are available).
- 9.4.9 Where there is potential for known sites to be affected by works of restoration, reinstatement or development, or there is reasonable potential for previously undiscovered archaeological remains, a programme of archaeological works must be devised and approved by the County or Metropolitan Borough Archaeologist (or their appointed professional advisors) in order to: a) provide further information as to the nature of the resource; b) enable appropriate mitigation measures to be put in place if necessary.
- 9.4.10 Where applicable archaeological recording of historic structures, as identified by reference to the local Sites and Monuments Record and the Chesterfield Canal Heritage Survey, will be undertaken to a minimum Level 2 standard as set out in the English Heritage Guidelines (EH 2006), which are a revised and expanded version of the Royal Commission on the Historical Monuments of England guidelines (RCHME 1996). All reporting and archiving of the results of Archaeological works will also be to these standards.

- 9.4.11 Adequate planning and timescales will be built into the restoration programme to allow for archaeological recording, analysis and the preparation of mitigation strategies or measures.
- 9.4.12 Once the restoration project has been completed, recording will continue to be required before any significant additional repairs are undertaken as part of the ongoing maintenance of the canal.

### Landscape Heritage

- 9.4.13 The landscape around the canal is itself an historical artefact which records a long history of human activity. The historic landscape character will be identified, conserved and where possible, enhanced. Mechanisms to conserve local distinctiveness will be actively encouraged.
- 9.4.14 Major Works and Maintenance will be planned and designed so as to minimise their impact on the waterway landscape.
- 9.4.15 Consideration of the landscape character, setting and local culture will influence the planning and design of waterside and water-based development.
- 9.4.16 The project will seek to encourage adjacent land uses and development which will not conflict with the historic landscape character.

### Built Heritage

- 9.4.17 Repair of potentially historic structures must be preceded by archaeological and historical research (see above) so that the significance of the feature in question is properly understood prior to the commencement of works affecting historic fabric.
- 9.4.18 Recording of the existing feature shall be undertaken before, during and after any significant intervention (whether repair or replacement/restoration).
- 9.4.19 Repairs and restoration of historic structures must be based on the principle of 'minimum intervention' and retention of as much original fabric as practicable.
- 9.4.20 Where practicable, repairs / interventions should be reversible.
- 9.4.21 Historic materials, fixtures and fittings are valuable. There should be a presumption that they should remain in-situ. Where such items cannot be left in situ they should be carefully salvaged and stored for re-use in an appropriate context.
- 9.4.22 Re-instatement of features such as lock paddle gear must be based closely on careful research of original features & designs (adapted as necessary to meet modern health and safety requirements) as these form part of the character of the waterway. Replicated elements should, however, always be clearly distinguished by discreet date-marking.
- 9.4.23 There should be a presumption that refurbishment or replacement of features will be undertaken using traditional materials such as cast iron, locally occurring natural stone (or best possible match), local brick stocks (or best possible match) and native hardwoods from sustainable sources.
- 9.4.24 Different periods of work within an historic structure or site shall be respected.

- 9.4.25 The 'patina of age' should be recognised as part of the value of the structure and removal should only be considered when it is essential to the protection of historic fabric. Restoration work should aim to avoid artificial ageing.
- 9.4.26 Harmful or poor-quality previous repairs should be removed and replaced with appropriate repairs using sympathetic materials, correct techniques and an appropriate standard of workmanship.
- 9.4.27 New work should be distinguished from old when restoration and repairs are carried out by discreet date-marking of new material.
- 9.4.28 New construction, infill or additions can be acceptable in an historic setting provided these maintain an appropriate visual context of form, scale, texture, materials and do not reduce the cultural significance of the setting.
- 9.4.28 Entirely new construction on the diversionary sections should utilise modern materials and solutions and, while making reference to its context, should be clearly differentiated from the original structure. Pastiche is to be avoided.
- 9.4.30 All personnel involved in the restoration and maintenance of the canal, whether contractors or volunteers, shall receive appropriate training in the recording, conservation, repair and maintenance of historic structures.

### **Community Heritage**

- 9.4.31 The project will seek to raise awareness, appreciation and understanding of the heritage resource in communities, landowners and individuals.
- 9.4.32 The project will engage with local community groups to record and disseminate local knowledge of the history (including oral history) of the waterways and the industries and communities it served.
- 9.4.33 Support will be given to the development of heritage training programmes for volunteers and members of the local community to build capacity and skills.
- 9.4.34 Public affection for the waterway heritage should be actively aroused through participation in a series of national heritage days as well as through festivals, exhibitions, publications and a range of participative hands-on events.
- 9.4.35 Interpretation should exploit the local distinctiveness, landscape, archaeology and cultural associations of individual historic waterways.

## **9.5 The Natural Environment & Ecology**

- 9.5.1 Both British Waterways and the Inland Waterways Advisory Council recognise that waterways are not only valuable habitats but are used for both navigation and recreation and that their operation as working heritage can lead to multiple impacts on the natural environment. British Waterways also recognise that "It is the quality and sustainability of the waterway environment that will attract people" and will ensure that waterways "...become increasingly valued as a national asset". A key part of any restoration strategy must be to protect the natural environment which attracts visitors in the first place.

- 9.5.2 A recent report commissioned by the Inland Waterways Advisory Council examined the impact of waterway activities, most notably boating, on the waterway environment (IWAC 2008). This report provided an evidence base concerning the actions needed to conserve wildlife that contributes to the essential character of the waterways.
- 9.5.3 Informed management of the biodiversity is required to conserve and enhance the present habitats and species on the canals. Conservation-led restoration, in line with CMP principles, will both conserve the existing biodiversity, and enhance it in those sections that currently have less value. The biodiversity approach can be applied to both the canals themselves and the wider corridor. As with the built environment, it is necessary to identify the elements that make up the biodiversity value.
- 9.5.4 The biodiversity policies of the Chesterfield Canal restoration are informed by best practice principles set out in Planning Policy Statement 9 'Biodiversity and Geological Conservation' (ODPM, 2005) and the associated Government Circular 'Biodiversity and Geological Conservation Statutory Obligations and their Impact within the Planning System' (ODPM 06/2005 and DEFRA 01/2005).
- 9.5.5 British Waterways 'Environmental Code of Practice' provides a further framework for local biodiversity planning. Its 'Biodiversity Manual' describes more specific management advice that can be applied at a local level, including technical and management specifications that take account of biodiversity aspects. Further and more widely applicable guidance, such as the Environment Agency's Pollution Prevention Guidelines, state good practice that will directly or indirectly protect biodiversity assets. Given the range of restoration projects now underway it is likely that best practise advice will emerge in the future and, where relevant, shall be adopted.
- 9.5.5 The Chesterfield Canal is an artificial waterway corridor which has developed a variety of habitats over 230 years. Like all artificial waterways, once abandoned, it has tended to loose overall biodiversity as sections dry-out, scrub over or become infilled. Many sections are now agricultural fields.
- 9.5.6 The restoration of the Chesterfield Canal to water therefore provides an opportunity to increase the biodiversity and wildlife population of South Rotherham and North-East Derbyshire. It will do this by:
- Reinstating and recreating lost wetland habitats
  - Protecting and expanding threatened wetland habitats and creating new off line wetland reserves
  - Improving the diversity and quality of the adjacent linear terrestrial habitats (e.g. planting of new hedgerows)
  - Providing a green/blue corridor linking disparate wildlife reserves.
  - Encouraging greater public understanding of, engagement with and participation in, the protection and enhancement of the natural environment.
- 9.5.7 While the overall impact of restoration on local biodiversity is seen to be positive (Halcrow 2004) there are obvious key issues which the project will have to address including:
- local direct impact on existing habitats

- local direct impact on protected species
- potential for indirect impact on habitats and protected species through increased public access and frequency of intrusion
- potential for the corridor to spread invasive and/or non-native species.

9.5.8 In seeking to balance benefits and disbenefits, the restoration works and future management of the natural environment and biodiversity of the Chesterfield Canal will be guided by established biodiversity policies and standards. These include:

- European, National and Local Government Strategy and Policy together with the resultant legal frameworks and legislation
- British Waterways' environmental policies and practices
- Environment Agency environmental policies and practices
- Inland Waterway Advisory Council research and policy recommendations

9.5.9 The local policies, relating to the natural environment and the ecology of the canal, are closely influenced by the legal instruments and frameworks surrounding the protection of habitats, species and waters. In effect these measures collectively produce a general duty to conserve and enhance the interest features of protected sites.

9.5.10 The key statutory instruments include "Part I of the Wildlife and Countryside Act (as amended) 1981: nationally protected species", and the "Habitats Regulations: European Protected Species". Furthermore some species receive protection under specific legislation, such as the Protection of Badgers Act 1992. Also of consideration are hedgerows that qualify as important under the terms of the Hedgerow Regulations 1997 (SI 1997/1160) as made under section 97 of the Environment Act 1985; Trees are protected by Tree Preservation Orders (TPOs) and as Ancient Woodlands. The UK is also bound by the terms of the EC Birds and Habitats Directives.

9.5.11 The potential effects of the restoration on habitats and species listed as priorities under the UK Biodiversity Action Plan (UKBAP) by Local Biodiversity Plans (LBAPs) and by the policies in the Biodiversity Strategy for England (DEFRA 2002), will need to be considered in detail as any such impact can be a material factor in the making of planning decisions. This is confirmed by Section 74 of the Countryside and Rights of Way Act 2000, which places a duty on Ministers and Government Departments with respect to the conservation of biodiversity. The First Secretary of State has issued Planning Policy Statement (PPS) 9 as an instruction to local authorities to use their planning functions as a principal conduit for the conservation of habitats and species of principal importance.

9.5.12 The local expression of these policies is summarised below

### **Design & Planning Phase**

9.5.13 Understanding of the current, and recent past, condition of the environment is a prerequisite for planning future development. Planning and design for restoration

- will be proceeded by the detailed investigation of the environment and habitats present on the canal line and in the wider canal corridor.
- 9.5.14 Avoidance of disturbance will be designed in and practised wherever possible. The emphasis will be upon averting impact by careful selection of working methods, operating area and site design. Avoidance will play a key role in the selection of the reinstatement route.
- 9.5.15 Mitigation will be designed in and undertaken where it is possible that the act of reinstatement will lead to a negative impact on the local environment and, in particular, where it could lead to a local net reduction in biodiversity. The emphasis is upon the reduction or elimination of impact by careful design, planning, and the choice of the most appropriate and environmentally sensitive methods. This can include the creation of “on line” reserves.
- 9.5.16 Compensation will be designed in and undertaken where it is not possible to mitigate for a particular action in situ. New areas of “off line” habitat will be created to provide a refuge for species during the works (enabling re-colonisation post the disturbance phase) and to compensate for losses of specific habitats following the works.
- 9.5.17 Enhancement will be designed in and undertaken wherever possible along the line of the canal. Enhancement includes the development of new habitats to increase local biodiversity, especially of those habitat types under threat in the wider region. Particular attention will be paid to enhancing existing or creating new Biodiversity Action Plan Habitats and providing additional niche space for protected and threatened species.
- 9.5.18 Co-location (Localisation): Mitigation, compensation and enhancement should take place within the same broad area of the waterway as the disturbance and that compensatory features will be sited in the same geological or landscape context so as to be compatible with the original habitat.

### **Delivery & Operation Phase**

- 9.5.19 The restoration project aims to achieve the greatest practicable biodiversity gain within the context of restored navigation. To that end the following policies and principles will be adopted:
- 9.5.20 Positive management and enhancement of the natural heritage will be pursued along the full length of the canal at all times.
- 9.5.21 The overall ecological principles set out in the ‘Rother Valley Wildlife Strategy’ (2000) and restated in ‘2020 Vision: A Strategy for the Restoration and Development of the Chesterfield Canal’ (CCP 2006) will continue to guide the restoration and canal management.
- 9.5.22 The planning of all works affecting biodiversity will be carried out following established and emerging best practice exemplified by the ongoing restoration of the Droitwich Canal, the Cotswolds Canals and the Montgomery Canal.
- 9.5.23 The assessment of current condition will be used as the baseline to determine change. It will be used to determine the efficacy of management regime and to determine if changes in restoration & management policy (including levels and timing

- of visitor access and boating numbers) are required to protect the natural heritage. This principle is referred to as “monitoring informs action” (cf. Lees 2005)
- 9.5.24 Negative impacts on biodiversity will be avoided wherever possible. When negative impacts are unavoidable they must be adequately mitigated or compensated for.
- 9.5.25 In cases where construction and related activities impact on legally protected species, an application for a Development Licence must be submitted which must contain a robust justification for the actions and provide specific information on how impacts will be mitigated and compensated for. The same discipline will be extended to non-protected noteworthy species.
- 9.5.26 All protected species (species protected by law) which occur on the canal or within the wider canal corridor, or that are directly affected by the restoration project, will be conserved. The presence of these species must be established prior to restoration so that the effect of the operation upon them can be determined. The measures necessary to protect such species must be put in place prior to commencement of works.
- 9.5.27 Other species and habitats which enjoy local protection, are locally rare (e.g. Derbyshire Red Book Species) or contribute to national and local biodiversity, will be conserved and enhanced in accordance with UK, local and corporate BAPs.
- 9.5.28 Recreation pressures will be managed so as to not significantly affect the maintenance of the habitat and populations of species or their ability to disperse throughout the canal network and any associated off-line reserves.
- 9.5.29 The physical environment, water quality and hydrological processes will be managed to maintain relatively constant water levels and flow rates and to minimise sediment disturbance.
- 9.5.30 Where present, the original canal channel will be maintained to high ecological standards. The objective of the in-channel management will be to maintain a diverse marginal vegetation and provide ecological connectivity between the nature reserves
- 9.5.31 The canal track, the inline and hydrologically connected off-line reserves will be managed as a single integrated site.
- 9.5.32 Protected trees and hedgerows will be safeguarded.
- 9.5.33 The new canal lengths will be managed so as to establish populations and habitats which reflect the natural carrying capacity of the canal, with plant & animal populations determined by natural processes.
- 9.5.34 The Partnership will engage with local communities, stakeholders and partners to maintain and diversify the habitats along the canal track and corridor.
- 9.5.35 Opportunities will be sought to link adjoining habitats and enhance the wider canal corridor in accordance with biodiversity and Natural Area objectives (as defined by Natural England).

## **Water**

- 9.5.36 Water is governed by several pieces of legislation. The principle emergent statutory instrument which will effectively supplant most existing legislation is the European

Community's Water Framework Directive. The Water Framework Directive is likely to have a significant impact on the project as it is introduced over the next five years.

- 9.5.37 Since water supply and quality is affected by a wide variety of factors, the maintenance of water supply and water quality requires a cross agency approach. The key design principles are:
- 9.5.38 Waters from the Rother catchment will be separated from waters from the Ryton/Idle catchment. Waters from one catchment will not be exported to the other.
- 9.5.39 Water abstractions to support the canal will be limited to maxima of 10% less than those proposed in the water resources study. This will be reviewed every two years on the basis of evidence gathered.
- 9.5.40 Optimum water quality will be pursued through:
- 9.5.41 Maintenance of channel vegetation to bind banks and prevent wave erosion of shallows with consequent sediment entrainment.
- 9.5.42 Proactive engagement and long-term partnership with local landowners to reduce sediment and nutrient flux on the canal through negotiating minor changes to agricultural regime in those areas bordering the canal. (a two year pilot project to determine appropriate interventions commenced on the Doe Lea in October 2009).
- 9.5.43 Bio-remediation techniques such as reed beds will be employed to "clean up" waters with the potential to carry large sediment or nutrient fluxes (such as field drains or colliery tip drains) before they enter the main canal channel.
- 9.5.44 Current climate change predictions indicate that in the near future we may experience water shortages in the summer months. To that end:
- 9.5.45 Leakage from the canal bed must be minimised. Leakage rates will be a key criteria in the selection of appropriate channel lining materials.
- 9.5.46 The efficient use and reuse of water in locks is essential and consideration should be given to the installation of back pumping systems at all lock flights.
- 9.5.47 Additional water storage capacity should be sought both within the sections under restoration and in the sections already restored to the west.

### **Other Environmental Impacts**

- 9.5.48 Other environmental impacts may include localised pollution from accidental discharges, interruption of water flows and generation of waste, etc. To minimise these potential impacts:
- 9.5.49 Best practice for environmental protection will be applied to all parts of the restoration.
- 9.5.50 Renewable and sustainable supplies will be sourced and utilised where ever possible.

### **Planting**

- 9.5.51 The general principle for restoration planting and landscaping will be to encourage native biodiversity through the use of indigenous species and to minimise the

amount of non-native ornamental planting. With this principle in mind the following policies shall be adopted in planting and landscaping schemes:

- 9.5.52 There will be a presumption in favour of planting regionally appropriate native species.
- 9.5.53 Planting will utilise local genetic stock material wherever available.
- 9.5.54 Planting schedules will reflect and mimic local conditions.
- 9.5.55 Wherever possible existing native vegetation will be preserved and protected during construction through measures such as barrier fencing with root-protective buffer zones. Where desirable vegetation has to be removed to facilitate construction, it should be set aside, if possible, for reinstatement later. Where possible, seeds will be harvested to establish a seed bank for use after construction.
- 9.5.56 The use of ornamental species will be restricted to urban focus points in the centre of Killamarsh and will make use of species that are likely to be of some biodiversity value.
- 9.5.57 Planting schedules will take account of operational management cycles that are likely to be low-intervention and rely upon traditional methods such as hedge laying and coppicing. These practices will be informed by best practice developed by BW and others.
- 9.5.58 In cases where ornamental planting is deployed for visual effect the planting will still be respectful of biodiversity principles making use, for example, of flower and fruit-rich species. The design of ornamental planting will also take account of the availability of longer-term management.
- 9.5.59 Opportunities will be sought throughout the restoration project to conserve, set aside, translocate and harvest existing native plant resources to ensure that as much local stock as possible is preserved or re-used in the restoration. This is a sustainable approach to planting that reduces the need to bring in new material from elsewhere.

### **Invasive species**

- 9.5.60 Material contaminated with Japanese knotweed or giant hogweed must be dealt with under an appropriate waste management scheme if removed from site. Specific procedures will be developed for dealing with these species. Basic principles will be to isolate infestations from construction activity and to apply strict controls over access to infested areas. Isolated areas will then be dealt with through longer-term herbicidal control. Where isolation is not possible, contaminated material and an appropriate buffer will be excavated and transferred under licence to an approved landfill site.
- 9.5.61 Himalayan balsam is not yet under the same control regime as Japanese knotweed and giant hogweed, although this position is likely to change in the near future as its level of infestation across England is growing.
- 9.5.62 It is acknowledged that it is impossible and unrealistic to talk about eradication of these three species. Management effort can only be applied to the land under its control. High levels of infestation on third-party landholdings will not be controllable and these will provide reservoirs for continuous re-infection of the canal corridor. It

is considered that long-term herbicidal control will be the only management option available to control or minimise infestations in the corridor. Mechanical measures such as cutting may also be used selectively but wide-scale cutting may compromise other biodiversity features.

- 9.5.63 All herbicides must have EA consent before they are used on or near watercourses. Only herbicides approved for use in or near water can be used in the canal channel corridor.

### **Landscape policies and standards**

- 9.5.64 Protection of the distinctive landscape qualities of the Chesterfield Canal between Killamarsh and Kiveton Park requires a long term management plan which extends beyond the canal boundary fence and includes the landscape which borders the canal. This “canal corridor approach” is required to prevent damage to the setting and context of the canal through neglect, failure of strategic planning, piecemeal development and the use of inappropriate scales, forms, massing and materials in adjacent locations.

- 9.5.65 To this end the Chesterfield Canal Partnership will promote landscape policies which will:

- 9.5.66 Identify, conserve and enhance the historic landscape character and local distinctiveness of the waterway.

- 9.5.67 Protect the existing and planned line of the canal from development.

- 9.5.68 Protect the surrounding landscape

- 9.5.69 Manage the physical impact of human activities in order to protect the landscape heritage.

- 9.5.70 Encourage, through national and local planning policies, adjacent land uses and development which will not conflict with the historic landscape character of the waterway.

- 9.5.71 Seek to address sites identified as requiring landscape improvement.

- 9.5.72 Promote consideration of landscape character, setting, and local culture as key influences on the design and planning of water-based and waterside development.

- 9.5.73 Provide detailed landscape designs for all new facilities, developments and works. The designs will be in keeping with the local character and full consultation with the local community will be undertaken.

- 9.5.74 Pro-actively work with landowners and other agencies to support initiatives in the wider canal corridor which help protect and enhance the canal’s setting and achieve a continuity of policy.

- 9.5.75 Plan and design major works and operational maintenance so as to minimise their impact on the waterway landscape.

### Landscape Feature of Potential National Importance

- 9.5.76 The heritage survey has identified the Norwood Locks as a location of national importance. The Chesterfield Canal Partnership will campaign for recognition of this

unique site and its additional protection through the designation of the Norwood Locks Conservation Area.

## 9.6 Access

9.6.1 Access covers all aspects of the use of the waterway by individuals and communities. It includes how they get to it, how they use it and how they learn about and understand it. Access is a central aim of the Chesterfield Canal Partnership – the Partnership’s 2006 “Access Strategy” set out in detail the requirements for key access improvements based on detailed survey data. A copy of the Access Strategy is appended in the Supporting documents (Volume 2)

9.6.2 Here we set out the policies which govern our approach to the development of access during restoration. Five groups of access policies are presented covering:

- Access for All
- Access to the Towpath and banks
- Access to the Water (including navigation)
- Access to Knowledge & Understanding
- Access to the Canal

### Access to the Canal

9.6.3 The first stage in using the canal is reaching it. The project seeks to establish a sustainable canal and, while fully encouraging the use of the waterway by local communities and visitors, it also seeks to minimise their impact on the environment. To this end the project:

9.6.4 Seeks to encourage exploration of the waterway by means other than private cars.

9.6.5 Car parking will be sited to encourage further exploration on foot and will include cycle parking facilities.

9.6.6 The location of new facilities will take into account public transport links.

9.6.7 With increased popularity and use further transport links will be developed and promoted.

9.6.8 Improvement to the local footpath and cycleway network will encourage use of the canal by local communities as an alternative to short car journeys

### Access for All

9.6.9 The Chesterfield Canal aims to be a waterway which is fully accessible and open to use by all irrespective of mobility or other impairment. *“While official definitions of people with disabilities includes 11% of the population, the modifications to designs and surfacing required to meet the necessary standards for “Access for All” actually improve access for all people, including , for example, the elderly and parents with young children”* (Montgomery Canal Strategy 2005, p.91).

- 9.6.10 To that end the design of all new lengths of canal will employ appropriate access for all standards (e.g. BT/Fieldfare Trust rural and urban footpath standards).
- 9.6.11 The restoration of historic structures will employ access for all standards wherever this is possible without damage to the historic fabric. Where it is not possible to provide access for all within an existing structure then an alternative route or access point of comparable quality will be provided.
- 9.6.12 Information on the use of the canal and interpretation materials (leaflets, signage etc) will be provided in a variety of formats suitable for those with visual and auditory impairments.

## **Access to the Towpath and banks**

### Walking

- 9.6.13 Access to the existing towpath and link paths will be improved for both local residents and visitors in line with the proposals made in the Chesterfield Canal Partnership's **Access Strategy**, Derbyshire County Council's **Greenways Strategy** and Rotherham Metropolitan Borough Council's **Cuckoo Way Improvement Plan**. This will include:
  - 9.6.14 Upgrade of the towpath surface to access to all standards.
  - 9.6.15 Upgrade the paths linking the canal to local communities and create a network of local circular walks.
  - 9.6.16 Provide or improve the access points, signage and information.
  - 9.6.17 Promote the use of the footpath network with local communities as a safe, pleasant, traffic free route with a view to replacing some regular local car journeys and supporting 'walking bus' and 'walking for health' initiatives.
  - 9.6.18 Encourage the use of the footpath network with visitors as an appropriate way of exploring and enjoying the canal.
  - 9.6.19 Support appropriate links to public transport and local facilities (cafés, restaurants, shops, etc.).

### Cycling

- 9.6.20 The Partnership wishes to encourage cycling where appropriate. The local cycleway network will be extended and improved in line with the proposals made in the Chesterfield Canal Partnership's **Access Strategy**, Derbyshire County Council's **Greenways Strategy** and Rotherham Metropolitan Borough Council's **Cuckoo Way Improvement Plan**. This will include:
  - 9.6.21 Upgrade the towpath to accommodate cycling where it is possible to provide a route of appropriate width and surface. This will be designed to respect the surrounding landscape character and will include speed control measures.
  - 9.6.22 Where heritage structures or ecology mean that it is not possible to provide a cycle route within the existing canal track, efforts will be made to seek the construction of an alternative complementary route.
  - 9.6.23 Upgrade links to other cycle routes in the area.

9.6.24 Improve or provide appropriate signage and information.

9.6.25 Work to ensure that other facilities (e.g. public toilets) are cycle friendly through the provision of cycle racks or cycle lockers.

#### Horse Riding

9.6.26 The Partnership wishes to encourage horse riding where appropriate within the canal corridor. The towpath, although it originated as horse towing path, was intended for led horses not ridden horses and as a result lacks headroom and sufficient width to meet the needs of walkers, cyclists and horse riders simultaneously. Support will therefore be given to:

9.6.27 Creation of an improved bridleway network, parallel to and using short lengths of the canal towpath only where these can be widened or where sufficient room exists to provide a second bridleway path alongside the foot and cycleway.

9.6.28 Creation of facilities for riders at key access nodes where bridleways intersect the canal towpath.

#### Angling

9.6.29 Angling is included with the bank activities as it is based on the bank and interacts most strongly (through competition for space) with bank based activities.

9.6.30 Responsible angling will be encouraged on the restored canal.

9.6.31 Local communities will be encouraged to play a direct role in the management of the fisheries through the lease of fishing rights by local angling clubs or groups.

9.6.32 Any introductions of stock will be gradual and will be based on existing local fish stocks. As with the water itself, a division will be established between those fisheries which connect with the Rother catchment and those which connect to the River Ryton and Idle catchment.

9.6.33 The already established commercial fishery at Kiveton Waters will be provided with an alternative off line fishing location as part of the phased conversion of Kiveton Waters into a marina.

#### **Access to the Water (including navigation)**

9.6.34 The restoration of navigation is a central aim of the project. The Partnership supports the return of both powered and unpowered craft to the canal. To that end the Partnership will:

9.6.35 Ensure that navigation and the provision of facilities for those using the waterspace for canoeing, rowing or narrow-boating is central to the design process.

9.6.36 Balance the needs of navigation, the built heritage and the natural heritage using an evidence based approach.

9.6.37 Monitor the effects of the introduction of the waterway and navigation into the landscape and make changes according to the results of evidence gathered (“monitoring informs action”)

- 9.6.38 Set the upper limit design capacity for navigation on the waterway at a maximum of 5000 boat movements a year (roughly comparable to the levels found on the Leeds and Liverpool Canal – current boat movements per year on the Chesterfield are around 1000).
- 9.6.39 Set the actual permitted boat numbers based on the results of monitoring.

Powered Navigation (canal boats, cruisers, launches and day boats)

- 9.6.40 Powered navigation will be encouraged on the Chesterfield Canal.
- 9.6.41 The Partnership will work with local, regional and national organisations, such as the Inland Waterways Association, to promote the Chesterfield Canal as a boating destination.
- 9.6.42 The number of hire boats based in the restored section will be kept under review and may be restricted, in the light of monitoring returns.
- 9.6.43 Mooring of powered boats will be restricted to formal mooring sites (the bridge wharfs), the presence of reed shelves and on line reserves will restrict mooring in other locations.
- 9.6.44 So called “eco-hull” designs and “eco-propeller” designs which reduce wash and turbidity (“mud-stirring”) will be encouraged particularly on local hire craft.
- 9.6.45 Electrically powered boats will be encouraged through the provision of 230-240v AC charging points at key bridge wharfs and in the marinas along the canal.

Unpowered Navigation (canoes and rowing boats)

- 9.6.46 Canoeing and rowing will be encouraged throughout the restored Chesterfield Canal.
- 9.6.47 The Partnership will work with local, regional and national organisations, such as the British Canoe Union, to promote the Chesterfield Canal as a paddling destination.
- 9.6.48 Facilities in the form of landing stages and slipways will be provided wherever appropriate and where these do not conflict with conservation of the built and natural heritage.
- 9.6.49 Slipways will be site in marinas and where it is possible to create appropriate low key car parking.

**Access to knowledge & understanding**

- 9.6.50 Promotion of understanding of the canal to the widest possible audience is a core aim of the Partnership. This includes increasing awareness of the Chesterfield Canals cultural, historic and environmental significance together with the benefits of restoring and developing the waterway and providing access for all.
- 9.6.51 A broad interpretation strategy has been prepared. This is part of the Chesterfield Canal Partnerships **Access Strategy** (CCP 2006) (Section Six: Intellectual Access). This identified four broad overlapping themes which are common to the entire canal:
- 9.6.52 **Canal Lives:** This theme emphasises the human story of the canal and its people and addresses: The social history of the communities along the canal; the social fabric and lives which developed around both the local industries and the canal

itself; the impact of the development of the canal and associated industries upon communities; how the canal was built and worked.

- 9.6.53 **Industry, River, Canal & Railway:** This theme emphasises the built heritage and archaeological record of the canal and its related industries and addresses: The development of industry prior to the building of the canal; the role of early roads and river shipping in developing a west to east grain of economic activity which led to the canal being constructed along its present course; the methods used to construct the canal; the increased pace of industrial development following the arrival of the canal and its eventual decline in the face of railway competition.
- 9.6.54 **Canal Landscapes:** This theme emphasises the very diverse range of landscape characters which the canal traverses on its journey from Chesterfield to West Stockwith. Understanding the origin and development of these landscapes encompasses elements of geology, geography, history and economics and provides an opportunity to explore the impact of canals upon the social and economic fabric of the region as a whole.
- 9.6.55 **Canal Nature:** This theme emphasises the natural heritage which has developed along the canal. In many locations the plant and animal communities of the canal are of regional and even national importance. This theme addresses how the plant and animal communities along the canal came into being, how they are being conserved and how they might be enhanced for the future.
- 9.6.56 The development of knowledge and understanding of the Chesterfield Canal will be promoted by:
- 9.6.57 Interpretation should exploit the local distinctiveness, landscape, archaeology and cultural associations of the Chesterfield Canal.
- 9.6.58 To foster local distinctiveness and sense of place, the interpretation should be developed in consultation with the local community. This should culminate in the production of Local Interpretation Plans (LIPs) which will recognise the local within the broader overall interpretive themes.
- 9.6.59 Interpretive and educational facilities and services will be provided to increase understanding of the canal environment and heritage and encourage public participation in the future of the Chesterfield Canal
- 9.6.60 Facilities will be developed in partnership and will be designed to complement local provision by other organisations.
- 9.6.61 On site interpretive signage will be sited and designed to impart maximum information in an unobtrusive way.
- 9.6.66 All canal interpretive materials will conform to the established Chesterfield Canal Partnership layout and format (Chesterfield Canal Partnership Design Guide 2004) and be compatible and uniform with the existing series of publications.

## 9.7 Education and Training

- 9.7.1 The Chesterfield Canal is a significant educational resource. The Partnership is already working with local schools and colleges to develop their use of the

Chesterfield Canal Trust's "Learning Boat" and to prepare for the use of the new canal "hub" at Hollingwood. The restoration of the canal from Killamarsh to Kiveton Park will provide a range of new opportunities.

- 9.7.2 The reconstruction of the canal and its long term maintenance will provide a framework for the growth of vocational training. The Partnership is the lead partner in the Inland-Waterways Initiative for Skills (I-WIS). This programme (supported by British Waterways, the Waterway Recovery Group and the Inland Waterways Association) aims to provide a coherent accredited national framework for all the skills used on the inland waterways.
- 9.7.3 The IWIS course units range from heritage construction techniques through to boat handling and tourism related activities. Course units can be grouped together thematically to enable participants to gain higher level diploma or certificate qualifications in a particular area (such as "heritage construction skills").
- 9.7.4 The IWIS course units are based upon established National Occupational Standards (NOS) and are accredited by City and Guilds. They are intended to enable volunteers to gain skills for use on their own projects, those changing career to gain new skills and those unemployed to gain recognised qualifications.
- 9.7.5 To support education and training, the Partnership will promote the following policies:
  - 9.7.6 All forms of educational and learning access will be encouraged through the development of appropriate physical facilities and learning materials.
  - 9.7.7 Formal partnerships with schools and colleges to use the resource of the canal will be promoted and supported.
  - 9.7.8 The restoration and development of the canal will be used as a vehicle for the development of high quality vocational training appropriate to volunteers, young people not in employment, education or training (NEETS), and long term unemployed.
  - 9.7.9 The Partnership will fully support the development of the Inland Waterways Initiative for Skills.

## **9.8 Sustainable Economic & Social Regeneration**

- 9.8.1 Regeneration is at the heart of this project. The regeneration of the canal, its heritage, its habitats and the communities which lie along its banks are all essential parts of its purpose. Without sustainable economic and social regeneration, the gains made in the protection and enhancement of the built and natural heritage will be lost and therefore sustainable regeneration is a core design principle.
- 9.8.2 Regeneration is not commonly seen as a Conservation Management Principle. Nonetheless, it is recognised that the regeneration of the canal corridor is based upon the high quality natural and built environment which the waterway provides. To sustain regeneration means sustaining the high quality environment and, therefore, all economic development should make minimising impact upon the resource on which it depends a priority. This might be characterised as 'Heritage Led Regeneration'.

## **Economic Regeneration**

- 9.8.3 To support sustainable economic regeneration, the Partnership will promote the following policies:
- 9.8.4 Increase economic opportunity space along the waterway by planning and leading (and where necessary seek external funding for) the creation of facilities which will increase visitor numbers to the canal corridor and increase business demand.
- 9.8.5 Use increased demand to support the creation of new businesses and the expansion of existing businesses and develop new employment opportunities.
- 9.8.6 Encourage community ownership (via local community interest companies) of businesses which can capture the value from increased visitor numbers and demand.
- 9.8.7 The transformative effects of waterway regeneration will be harnessed to change external perceptions of the area and encourage inward investment.
- 9.8.8 Encourage businesses operating within the canal corridor to adopt purchasing and employment practices which maximise the local economic impact of visitor spend.
- 9.8.9 Encourage adoption of green processes and methods and the development of green products (especially green tourism products such as electric boating).

## **Social Regeneration**

- 9.8.10 To support sustainable social regeneration the Partnership will:
- 9.8.11 Build capacity in the community through instigating, supporting and providing education and training along the canal corridor.
- 9.8.12 Work with local Schools and Colleges to provide learning opportunities on the waterway.
- 9.8.13 Work with our partners to develop new learning facilities.
- 9.8.14 Encourage community engagement with the waterways and the business opportunities they bring – to foster a more positive and “can do” mindset.
- 9.8.15 Promote community cohesion through intergenerational, within-community and between-community activities and events.