

# Next Navigation East:

## Part 19: Design Summary for Restoration Section 7: Killamarsh East

## Contents:

<b>19</b>	<b>Design Summary for Restoration Section 7: Killamarsh East</b>	
19.1	Overview	1
19.2	Environment & Ecology	4
19.3	Archaeology & Heritage	6
19.4	Economic & Social Regeneration	8
19.5	Planned Works	8
19.6	Access Improvements	10
19.7	Future Aspirations	12
19.8	Photographic Survey of Route	12

# 19 Design Summary for Restoration Section 7: Killamarsh East

## 19.1 Overview

- 19.1.1 The Killamarsh East restoration section extends from Nethermoor Lake to Norwood Bridge near the foot of the Norwood Flight.
- 19.1.2 The section commences at the Nethermoor Lake moorings. The new route leaves the eastern side of the lake via short length of new cut. This passes under Barber's Lane Bridge (No.28), a new minor road bridge, before reaching the bottom of the Moorhouse Flight. The flight raises the canal from Nethermoor Lake back to the original line of the canal.
- 19.1.3 The Moorhouse Flight consists of six locks; A five-rise group followed by a short pound and then a single lock at the point where the new route re-joins the original canal line. The junction will be adjacent to the site of the demolished Ellison's Cottages (now on the edge of Norwood Industrial Estate).
- 19.1.4 The Moorhouse Flight is located in the Rother Valley Country Park and has the potential to be additional tourist attraction. It will be a striking and very prominent feature which will provide outstanding views over the southern end of the Park. The operation of the locks, especially those as intricate as this flight, will provide a constant source of entertainment to onlookers. With that in mind particular attention is being paid to accessibility, quality of materials and appearance and the integration of the site into the wider landscape in the design process.
- 19.1.5 From the outset it is envisaged that back-pumping will be required on the flight. A small pumphouse is located at the foot of the flight adjacent to Barber's Lane. This will potentially be an attractive structure and could double as a visitor orientation point, ice cream kiosk, lock keepers office and/or maintenance workers bothy.
- 19.1.6 A foot and cycleway bridge over the tail of the uppermost lock (Moorhouse Junction Lock) and the short pound will connect the new towpath line to the original canal route and towpath to the site of Belk Lane Lock and Sheffield Road.
- 19.1.7 From Moorhouse Junction southwards the original canal will be reinstated and a winding hole constructed at the southern end adjacent to Primrose Lane. This arm will be used for low key moorings (the Primrose Lane Moorings) and as partially off-line nature reserve.
- 19.1.8 From Moorhouse Junction northwards the section from Ellison's Cottages to Rotherham Road (A618) past Norwood Colliery Wharf (intact and partially restored) will be dredged and rewatered. At present the canal channel contains some partially-watered lengths with considerable biodiversity and ecological value. These lengths are not currently managed and there is evidence that they are gradually drying out (only half the water area mapped in 1980 remains).
- 19.1.9 Restoration will restore the lost open water area by dredging. In order to retain the current biodiversity shallow water off-line reserves will be created and the areas of off-bank reedswamp extended with reed shelves.

- 19.1.10 Between Ellison's Cottages to the Norwood End stop plank narrows there are several areas of irregular off-bank flooding due to mining subsidence. These will be retained, enlarged and separated from the main channel by a shallow bund with waterflow regulated by buried pipes and silt screens. Some of the flora from the main channel dredging will be transplanted to the new ponds. These Norwood End or Gannow side-ponds will form an off-line reserve with clear water conditions which will enable the re-colonisation of the main channel following repeated dredging.
- 19.1.11 Between the Norwood End stop plank narrows and Rotherham Road Bridge new reed shelves on the off-bank will be created wherever possible. Attention will also be paid the renovation and public interpretation of the Norwood Colliery Wharf.
- 19.1.12 By Rotherham Road the canal is running in a shallow cutting. The new bridge (on the site of Gannow Lane Bridge No.29) will require only a modest increase in the road level to achieve a navigable height passage under the A619. Fortunately the sight lines here are excellent and there are no side turnings in the area of the works.
- 19.1.13 The Rotherham Road Bridge will permit reconnection with the in-water section which runs eastwards from the road, under the grade 2 listed Norwood Bridge, to the foot of the Norwood Flight. This section is silted in places but otherwise retains water. Immediately south of Norwood Bridge is the (unmarked) boundary where the canal passes from Derbyshire into South Yorkshire (Rotherham MBC).
- 19.1.14 Section Seven nominally ends at Norwood Bridge. Norwood Bridge is included in Section Eight as it is the first significant heritage feature of the main Norwood Lock Flight group.

## 19.2 Environment & Ecology

### Issues

- 19.2.1 The proposed route crosses three areas of nature conservation interest.
- 19.2.2 The Moorhouse Flight will commence on land which forms part of the Rother Valley Country Park Wildlife site, it then passes across an area of land designated as of interest for its grassland habitats.
- 19.2.3 From Ellison's Cottages to Rotherham Road the Norwood End length of the original canal is a Derbyshire County Council Local Nature Reserve.
- 19.2.4 The original canal east from Rotherham Road to Norwood Bridge has also been designated as a Local Nature Reserve. This site has recently been removed from the list of sites (Laws 2008) although it still retains many features of interest.
- 19.2.5 To the west of the original line between Rotherham Road and Norwood bridge is the Norwood Triangle Wet Woodland LNR site. There will be no impact on this site from the restoration.
- 19.2.6 Both lengths of original canal channel have past records and present potential for the presence of water vole.

### Mitigation

- 19.2.6 **Moorhouse Flight:** The loss of grassland habitat will be relatively limited and will be mitigated by careful design to reduce the overall width of the structures. The greatest impact is likely to occur during construction.
- 19.2.7 The working area for the lock construction will be kept to an absolute minimum. Topsoil will be removed and stored separately so that it may be returned (with its seed bank) to the area around the locks. Removal of invasive scrub and better management will encourage new areas of grassland.
- 19.2.8 **Ellison's Cottages to Rotherham Road:** The area is an LNR on the basis of its flora and habitats. At present these are at risk of disappearing due to the progressive drying of the canal at this point. Restoration of a through flow of water will be beneficial in maintaining the current biodiversity.
- 19.2.9 To maintain the current range of depths when the canal is dredged an "off line" reserve will be created parallel to the canal from Ellison's Cottages to the Norwood "elbow" bend. This is shown as the Gannow Side Ponds on the main restoration plan. The ponds will be fed from the canal via a sluice and will return water to the canal again via a sluice. This will enable the section to be sealed off in the event of the need to drain the main canal or to control a pollution incident.
- 19.2.10 The existing flash like wetland "pockets" created by mining subsidence along the off bank from the Norwood "elbow" bend to the edge of the industrial estate will be maintained and will be expanded by the creation of a linking reed shelf along the entire restored channel in this length.
- 19.2.11 The side ponds and new reed shelves will be established using dredged sediments (with seedbank) and manually transplanted plants from the main channel.
- 19.2.12 Creation of the side pond will precede the full navigation restoration of the main channel. This will allow the side pond to become fully established (and to assess the success of the side pond strategy on the principle that "monitoring informs action") prior to major disturbance of the existing community.
- 19.2.13 There are also opportunities to create additional wetland habitats along the Primrose Lane Mooring Arm. This length will incorporate a reed shelf along much of its length and a shallow water wetland around the winding hole. Should the Gannow side Pond prove unsuccessful in maintaining local biodiversity it will be possible to convert practically all of this length into a wetland reserve.
- 19.2.14 **Rotherham Road to Norwood Bridge:** This section has suffered damage in recent years due to the inadvertent actions of the riparian landowner on the off-bank. Agreement has now been reached on future management of the adjacent site and it is hoped that the species diversity of the canal channel and off-bank will now begin to recover.
- 19.2.15 Reinstatement of the channel is here constrained by the presence of a shallow cutting and an embankment over the County Dike brook. Reinstatement will therefore have to use the original channel form and it will not be possible to create a formal reed shelf along the off bank. Notwithstanding, dredging will be planned so as to leave a substantial body of in-situ material adjacent to the off bank ensuring retention of much of the current reedswamp.

- 19.2.16 **Water Vole:** A water vole management and mitigation plan based on best practice (e.g. Strachan & Moorhouse 2006, ADA / Natural England 2007) will be produced in conjunction with the detailed works phasing plan. This will set out, in agreement with English Nature and the Wildlife Trusts, the procedures to be adopted to ensure that water vole are excluded from working sites and that the works are staggered and phased so as to allow the gradual step-wise movement of water vole.

#### Enhancement

- 19.2.17 The construction of the Moorhouse Locks will have a short term impact on the grassland habitats on the route. The locks will result in some loss of habitat, however, the canal project will enable the positive management the grassland around the locks. Positive management is required to (1) prevent development of scrub woodland and (2) to manage the hedgerows around the site to prevent them growing out and spreading across the area.
- 19.2.18 The canal project is therefore an opportunity to enhance the management of the grassland areas which are currently neglected.
- 19.2.19 The reinstatement of the canal channel will increase the water area within the critical LNR length from Ellison's Cottages to Rotherham Road and the former LNR from Rotherham Road to Norwood Bridge. An increase in wetland area by 50% is planned and will be achieved by the dredging the channel to close to its original profile and by the creation of an off-line reserve and reed shelves.
- 19.2.20 Dredging of the channel will follow a policy of, wherever possible, retaining and storing the dredged sediments separately so as to provide a seed bank for new lengths of canal and off line reserves.
- 19.2.21 Dredged sediments will only be used for the seeding of new lengths of canal channel within the same hydrological catchment. Sediments dredged at Killamarsh east derive from the Rother Catchment and thus can only be used for seeding in the Killamarsh East and Killamarsh Town sections.

#### Engagement

- 19.2.22 The loss of open water habitat has led to the end of fishing on these lengths. Restoration of a mixed habitat or reedswamp and open water would encourage the return of fish and would engage the local community with the protection and management of this wetland habitat.

## **19.3 Archaeology & Heritage**

#### Issues

- 19.3.1 Approximately 239 m is new construction on a new route, approximately 1475m is the existing original canal which will require repair and reconstruction.
- 19.3.2 The first 75 m of the new construction crosses the floor of the Rother Valley on backfill emplaced during remediation of the former opencast coal mine in the 1980's and 1990's. This has no archaeological potential. The boundary between former open cast and relatively undisturbed landscapes in this area is Barber's Lane. The

lane runs north from Killamarsh towards Bedgreave Mill. The landscape to the west of the lane is largely reconstructed, the landscape to the east is largely intact.

19.3.3 East of Barber's Lane the next 164 m of new construction is on the hill slope rising up to the original line of the canal. The hedgerows and land boundaries crossed by the new line probably date to the same period as the canal and which can be traced on Ordnance Survey maps since the first detailed edition for this areas in 1870. No archaeological sites are known from this section of the track. There is evidence for brick-making and clay extraction to the north of the line but none of these sites will be affected by the proposed line.

19.3.4 The remainder of the route utilises the surviving original canal channel. This has been subject to minor mining subsidence and will require some reconstruction. The key heritage features are (1) surviving lengths of unmodified original 1777 channel showing the original "sloping on both banks" Brindley profile, (2) the remains of Norwood Colliery Wharf and (3) a small stop plank narrows.

#### Recording

19.3.5 Assessment of the track of the new alignment together with such land as is required for construction access will be undertaken at the detailed design stage by resistivity and/or similar geophysical techniques.

This will be followed by selective trial excavation of suspected features, together with a stratified random sample of test pits along the route.

19.3.6 During the construction phase an archaeological watching brief will be kept during de-turfing and site clearance.

19.3.7 Detailed recording of the known remains of the canal will be undertaken prior to the commencement of the works. This will include a full suite of measured drawings and photography, together with small scale excavation to establish the relationships between different phases.

19.3.8 On all original sections of the waterway an archaeological watching brief will be kept during works on heritage structures or on sites where the buried remains of heritage structures may be expected.

19.3.9 This strategy is based upon that adopted during the reconstruction of the Thorpe and Turnerwood Flights on the Chesterfield Canal. These approaches are being employed on the Droitwich and Cotswolds Canal projects and are recognised as best practice.

#### Enhancement

19.3.10 The restoration of the canal will protect the surviving remains of the waterway along this length.

19.3.11 The restoration provides the opportunity to interpret the history of the waterway (see access below). In particular to make a feature of the Norwood Colliery Wharf.

#### Engagement

19.3.12 The heritage of the waterway is largely lost at present with the line of the canal becoming increasingly difficult to recognise between the industrial estates.

- 19.3.13 Work on the recording of the standing remains will be undertaken using non-invasive techniques working with community groups and with local schools and colleges. This will form part of a wider community archaeology and heritage project in the Killamarsh area.

## **19.4 Economic & Social Regeneration**

- 19.4.1 This length has no direct opportunities for economic development but contributes to improving linkages between the canal and the facilities of the village and the tourism destination of Rother Valley Country Park.
- 19.4.2 The use of the “Old Canal” and existing rights of way within the village will enable the creation of a series of local circular “doorstep walks”. As these routes will run through several existing green spaces there are opportunities for installing simple “green gym” equipment along these routes and developing them as trim trails.

## **19.5 Planned Works**

### Canal Track & Channel

- 19.5.1 Where the original channel is present the existing channel will be cleaned and re-lined with puddle clay. The new channel on the valley floor will use clay puddle as water loss is not a significant factor in this setting. The channel between the bridges and locks on the Moorhouse Flight will be integrated with the structures and will take the form of mass concrete walls with the upper part faced with local stone or brick as is appropriate for the flight (and will be designed as part of it).
- 19.5.2 This section has few utility crossings. The route passes under existing medium voltage overhead cables near Barber’s Lane – no modifications to cabling or pole positions is required. The route is crossed by a surface water drain west of the stop plank narrows near the Norwood Colliery Wharf. Options for diversion of this drain are being investigated.
- 19.5.3 The main cluster of utilities is at Rotherham Road. On the west side are underground electricity supply cables and a low pressure gas main. Both will be incorporated into the design for the new Rotherham Road Bridge. On the east side of the road line are overhead medium voltage electricity supply cables. No repositioning of the cables or poles are required. The presence of overhead cables will restrict the working space and hence working methods which can be used to construct the new Rotherham Road Bridge and will be taken into account at the detailed design stage.

### Bridges

- 19.5.4 This section requires one minor road bridge at Barber’s Lane and one major road bridge at Rotherham Road.
- 19.5.5 The minor bridge is required to take maintenance vehicles and farm traffic. The design will be based on the new bridge at Bilby Lane, near Brimington.

- 19.5.6 The main road bridge requires a relatively thin deck construction to gain sufficient headroom for navigation without raising the road surface unduly.

#### Locks

- 19.5.7 There are no original locks on this length which require restoration.
- 19.5.8 There are 6 new locks required to lift the canal from Nethermoor Lake back to the original canal line. These are arranged in a staircase flight of five locks, a bridge and a further single lock. This mirrors the shape of the hill slope and allows the flight to remain near ground level. All six locks and the two bridges will be treated as a single integrated structure for the purposes of design.

#### Water Supply

- 19.5.9 Water supply for this section comes from the Norwood Flight (Section 8). There are no intermediate natural sources of water which can be tapped. There is potential for intercepting surface water drainage and using reed bed filters to clean it before allowing it into the canal. Except under extreme conditions this will contribute relatively little to the sections overall water budget.
- 19.5.10 The primary draw on the system will be the Moorhouse Flight. With efficient operation each boat movement will require at least 125 cubic metres of water and this is likely to be an underestimate.
- 19.5.11 In order to conserve water a back-pumping system will transfer water from the Nethermoor Lake level to the level of the original canal. This will entail pumping water up the entire Moorhouse Flight, the most efficient arrangement is to pump the water the full distance at a fairly constant, low rate. This reduces start up and stop pressure on the pumps. The pumphouse at the foot of the flight will be made a feature of the design and may also serve as an information and orientation point for the canal, the locks, Killamarsh and Rother Valley Country Park.

#### Construction Impacts

- 19.5.12 Construction impacts will be minimised by working “within track” wherever possible.

#### Potential Hazards

- 19.5.13 Two major hazards are recognised; unstable slopes and un-recorded mine-workings.
- 19.5.14 The slope from Nethermoor Lake up the original canal line is a potential problem and detailed work need to be done on establishing the best method of anchoring the new lock structures on this length. A programme of site investigation by bore hole is planned.
- 19.5.15 Archaeological survey has not located any previously un-recorded mine workings on the proposed new alignment. Further geophysical prospection work will be undertaken to assess this initial finding. Should mine working be located they are likely to be shallow near surface workings and should not pose insurmountable difficulties in infilling and capping. It should be noted that DCC Consultancy and Contracting has considerable experience in the remediation of abandoned mine workings (see Storey 2008).

- 19.5.16 Further construction hazards are posed by the biodiversity on the site and the potential for the presence of protected species. Care will be taken to design working methods which meet, and preferably exceed, all national standards and are approved by our stakeholders.

## 19.6 Access Improvements

### Towpath Alignment and Improvements

- 19.6.1 The Towpath or Cuckoo Way through this section is moderately well used but has not yet been improved. There is considerable scope for improving the quality and accessibility of the route. The currently signposted route uses, as far as possible, the original route of the canal. The route is not surfaced and the vegetation along the line is poorly managed at present. This discourages use of this section of the Cuckoo Way as a route to work. Given the success of the “Killamarsh Greenway” along the western half of the Cuckoo Way in Killamarsh, there is clearly a case for upgrading this path as a preliminary stage in the restoration of the canal.
- 19.6.2 The proposed diversionary route can be followed for much of the way using existing rights of way, however, these are uniformly in poor condition and are not surfaced. None are currently intended for cycle use. The proposed diversionary route is not yet marked on the ground as a recognised way-marked route.
- 19.6.3 When constructed the new diversionary route will be a minimum of 2 m wide and surfaced throughout. It will be intended for both foot- and cycle- use and will meet all Sustrans and BT/Fieldfare “Access for All” standards.
- 19.6.4 Linked to the new Towpath / Cuckoo Way will be a path along the crest of the flood bank on the southern side of Nethermoor Lake from the Killamarsh Juniors Sport Club to the proposed Nethermoor Floodgate and then on to Barber’s Lane. This will improve access from the village to Rother Valley Country Park and provide all weather access to the moorings in Nethermoor Lake.
- 19.6.5 Once the new Canal length has been completed the official route of the Cuckoo Way will be diverted onto the diversionary route. The original Cuckoo Way will be retained as a public right of way. The section from Moorhouse Locks Junction to Kirkcroft Avenue will be re-badged as the “Old Canal Heritage Loop”.

### Access Points / Nodes

- 19.6.6 The project will result in the improvement of access to the towpath and its associated link paths at the following locations:
- Barber’s Lane – The lane is a foot and cycle route linking Sheffield Road in Killamarsh with Rother Valley Country Park. This node will give direct access onto the lane. The node will lie at the foot of the Moorhouse Flight adjacent the proposed pumphouse.
  - Moorhouse Junction – This will give access from the towpath at the top of the Moorhouse Flight onto the existing paths which lead north westwards into Rother Valley Country Park. These are underused links

- Norwood Industrial Estate – several locations along the current towpath provide access to the Industrial Estate and its road system. These links need to be formalised and protected to encourage use of the canal towpath as a route to work from the village centre.
- Sheffield Road via Old Line behind Houses on Primrose Lane – the existing Cuckoo Way reaches Sheffield Road via this path. As part of the scheme this path will be widened and improved as a route to work. Control barriers will be required at Sheffield Road to prevent too rapid movement onto the main road.
- Rotherham Road – this will be a major node providing access from Towpath onto Rotherham Road (with its public transport links) and the Angel Inn.
- Norwood Bridge – at present there is no access across Norwood Bridge into the Nor Wood. Access to Rotherham Road is possible by passing under the bridge and joining the private road from the Norwood houses which leads back to the main road. The status of this road is uncertain and clarification of the public's right of access is required.

#### Links to the Wider Foot & Cycleway Network

- 19.6.7 The current Cuckoo Way has few formal links to other footpaths along this section. The restoration of this length will aim to:
- 19.6.8 Improve the physical links between the canal and Rother Valley County Park.
- 19.6.9 Improve passage of the eastern half of Killamarsh for long distance walkers and cyclists to bring it up to the standards of the western half of the Cuckoo Way (post the completion of the Killamarsh Greenway).

#### Visitor Facilities (e.g. Marina's, Fishing Staging, etc.).

- 19.6.10 This length does not have any major visitor facilities. Here effort is to be concentrated on improving the towpath surfaces and access, providing good quality interpretation and the provision of seating at key locations. For example at the Moorhouse flight.
- 19.6.11 There is potential for providing some additional interpretation facilities using the Moorhouse Flight pumphouse.
- 19.6.12 Fishing will be possible on the lengths from Norwood Bridge to Rotherham Road and from Rotherham Road to Moorhouse Junction. The length will be reserved for informal, casual, community and youth fishing rather than match fishing. Formal fishing pegs or fishing platforms will only be provided if demand warrants it.

#### Interpretation

- 19.6.13 The Killamarsh East Section provides opportunities to flag up both the natural history and the built heritage of the Canal. The interpretation proposed builds upon the key themes set out the **Chesterfield Canal Partnership Access Strategy**.
- 19.6.14 The importance of the local nature reserves both in Rother Valley Country Park and along the line of the Canal will be used as a thread in the exploration of the ecological value of waterways.

- 19.6.15 Interpretation of the built heritage will focus on the Norwood Colliery Wharf. Given how completely the colliery and other coal mining sites have been removed from the landscape, the wharf provides an opportunity to discuss one of the main reasons for the canal's existence and its importance to the shaping of the modern landscape.
- 19.6.16 The story of the canal restoration will be the subject of interpretation at the Moorhouse Flight. Information will be given on the new and original routes and how both can be explored.

## **19.7 Future Aspirations**

- 19.7.1 Several commercial development proposals have been made for the development of the land within the Norwood Bends (i.e. from the end of the Primrose Lane winding hole to Norwood Colliery Wharf). The Canal Partnership is working to ensure that the proposals which come forward will make full use of the waterway around the perimeter of the site. There is potential for this development to gain direct access to Rother Valley County Park if a foot and cycleway bridge were to be built over the canal in the vicinity of the former Ellison's Cottages. This bridge is not included in our proposals as provision of this feature, while strongly encouraged by the Partnership, would fall to the developer.
- 19.7.2 Proposals by the developers of the site to relocate Killamarsh Middle School near to the line of the canal offer the opportunity to create wetlands with educational access. This would enable a great range of biological and ecological principles to be taught in the school's backyard. Again the Partnership will work to ensure that should these proposals come forward they will take full account of the biodiversity of the canal and the location and distribution of the proposed off-line reserves.

## **19.8 Photographic Survey of Route**

- 19.8.1 The plates below illustrate the route. They commence at the western end of the section and conclude at the eastern end. Unless specifically marked "reverse view" all these photographs were taken looking and facing east (towards Kiveton Park) along the canal track.

Figure 19.1



View across Nethermoor Lake towards route of new canal.

The Canal would leave the lake on the far bank between the two woodland areas.

Figure 19.2



Barber's Lane looking north towards RVCP on the approximate site of Barbers Lane Bridge.

The Canal would pass from left to right across this view immediately in front of the photographer. The water body on the left is part of Meadowgate Lake, a Local Nature Reserve.

Figure 19.3



Site of Moorhouse Locks – Reverse View Looking West downhill.

The Canal would pass over the wooden post straight down to Nethermoor Lake which is the larger water-body immediately ahead of the photographer.

Figure 19.4



View across site of Moorhouse Flight showing grassland and hedgerows.

The Canal would pass left to right across this view.

Figure 19.5



Site of Moorhouse Junction Lock, looking south.

The original line of the canal is visible on the left hand side as a well established grown out hedge line. Immediately in front of the photographer is the proposed site of Moorhouse Junction Lock.

Figure 19.6



Site of the Junction of the Original route and the diversionary route, looking south-east.

The original line of the canal is visible on the left hand side as a well established grown out hedge line. The new route would form a junction with old in this area.

Figure 19.7



View west along the original canal line towards the site of the proposed Primrose Lane moorings and the winding hole.

The original profile of the canal is especially clear in this view.

Figure 19.8



View east along the original line of the canal proposed for conversion to a mooring arm towards site of junction between the new main line and the original line. The junction.

The junction is located near the end of the section shown here. The bush in the middle ground is also visible in Figure 19.7.

Figure 19.9



Typical seasonal puddle in the bed of the canal near Ellison's Cottages

These pools become larger and more permanent the closer to the in water section at Ellison's Cottages.

Figure  
19.10



Canal in water  
looking west toward  
Ellison's Cottages .  
Reverse view.

In this 2005 view the  
Canal is in water, recent  
views show that the open  
water area is much  
reduced and the area of  
reeds swamp has greatly  
increased.

Figure  
19.11



Off bank of canal at  
Norwood Bends  
showing erosion and  
subsidence.

The new side ponds would  
be located here.

Figure  
19.12



Off bank of canal at  
Norwood Bends  
showing erosion and  
subsidence.

The new side ponds would  
be located here.

Figure 19.13



View of canal channel at Norwood Bends looking south.

Note the reed bed and the eroded off-banks.

Figure 19.14



Canal looking west towards Norwood Bends.

Note the channel is infilled with reed and bulrush, and in places is drying out and becoming colonised with dry land plants.

Figure 19.15



Canal looking west towards Norwood Bends.

The location of the close up in Figure 19.14 is in the middle distance beyond the walker. Note the channel and the condition of the grass surfaced towpath and the partially grown out hawthorn hedge.

Figure  
19.16



Norwood Colliery  
Wharf looking east.

The wharf is prominent structure which will form a centrepiece for the interpretation for this section.

Figure  
19.17

Picture awaited

Rotherham Road  
looking north across  
the site of the new  
Bridge.

The canal passes west (left side) to east (right side) across the picture.

Figure  
19.18

Picture awaited

Rotherham Road  
looking south across  
the site of the new  
Bridge.

The canal passes west (right side) to east (left side) across the picture.

Figure  
19.19



Canal near  
Rotherham Road.  
Looking west towards  
Rotherham Road.

The open water curves sharply right beyond the walker and will then pass under the new Rotherham Road.

Figure  
19.20



Canal looking east  
towards Norwood  
Bridge.

Note accidental damage to off-bank caused by building work by the site owner.

Figure  
19.21



Norwood Bridge  
looking east.

The section ends at the bridge. The bridge is the first structure in Section Eight.