

Landscape strategy & access improvement report

Rediscovering the River Colne

September 2020



Presented by
The Colne Catchment Action Network





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Rediscovering the River Colne Workstream 2 Delivery Partners:

This plan was produced by Groundwork East in partnership with Community Connections Community Interest Company and the Hertfordshire and Middlesex Wildlife Trust.



Rediscovering the River Colne

Colne Landscape Strategy and Access Improvement Report

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All appendices have been provided electronically to allow interrogation during project delivery.

Further supporting documents referred to in this report are seven river restoration plans for specific sites presented separately by Groundwork. Also produced for the wider project are reports on environmental monitoring, community engagement and funding opportunities. A summary report bringing all proposals together has also been produced to support communication and funding bids.

1. INTRODUCTION

1.1 PROJECT BACKGROUND

Watford Borough Council (WBC) is aiming to develop and deliver a ten-year strategic plan, “Rediscovering the River Colne”, to improve the river corridor for local people and wildlife within their administrative boundaries.

In Watford, it is easy to miss the River Colne altogether with its value as a natural asset largely unrecognised. There is a perception that the river is in many parts dirty, inaccessible, unkempt and of low wildlife value (WBC Project Brief River Colne Improvements, Watford on the Water Report September 2018). However, the river to the north and south of the district illustrates how a healthy river can enhance the environment and the lives of local people. From internationally rare chalk rivers in its rural headwaters to the gravel pits and reservoirs in the Colne Valley Regional Park, the Colne catchment possesses a rich and diverse range of waters and provides a wide range of opportunities for business and recreation as well as supplying water to meet public demand. Within Watford, the river links a number of key open spaces and could form a natural corridor for regeneration and improved environment. A positive contribution at a local town level will benefit the catchment as a whole.

Watford is characterised as an urban borough with approximately 80% of the area consisting of built up areas and urban green space (Local Plan 2020 – 2036). Significant residential, commercial and amenity development is being undertaken within Watford. Flooding and water scarcity have been identified as potential issues locally and WBC is keen to ensure that any development is sympathetic. Watford Riverwell, a major development in south Watford, recognised “the river as a crucial element in creating an environment that would benefit the wellbeing of this new community and the wider area”.

The Council has invested heavily in its programme to improve parks and open spaces including those the River Colne runs through. The programme was unable to incorporate the river itself and some of the issues affecting the river corridor are having a negative impact in the parks in particular litter in and around the river. In addition, there is poor accessibility to and along the river corridor. If resolved it would benefit both the immediate river corridor but also the wider parks and open spaces.

In his manifesto, the Elected Mayor of Watford identified improvements to parks, open spaces and leisure facilities in the borough as a mayoral priority. The Council seeks to do this by supporting the provision of new and extensive facilities at ‘Oxhey Park North’, introducing a London-style bike hire scheme and creating an improved riverside walk along the Colne River Valley.

“Improving and enhancing” the River Colne is also embedded in Watford Borough Council’s Corporate Plan to 2020.

The project brings together the aspirations of a number of different stakeholders including water companies, local authorities, businesses, government agencies, charities, anglers, conservationists and local residents. ColneCAN is proposing a bespoke collaborative approach to project delivery that utilises the skills of key partners in the Watford area. Integral to the project’s success is this delivery by organisations with the best knowledge of Watford’s ecology and local communities,

The project aims to assist local planning authorities in developing policies for river environmental protection. We encourage local planners to include policies to protect the River Colne’s water quality, biodiversity and landscape in addition to making provisions for access and recreation around the river corridor.

1.2 VISION AND AIMS

Vision

For the river to be an asset within the borough, contributing positively to the lives of local people and wildlife. To create an improved riparian corridor and regenerated public spaces that the river flows through to provide a high-quality landscape for recreation, wildlife and conservation. For the project to help prevent water voles from going extinct in the Colne Valley by establishing a thriving population within Watford by the end of the project

Aims

The Rediscovering the River Colne project will focus on three main areas

Environment (improvement & monitoring): build on the knowledge of key stakeholders to provide robust local improvement strategies and ensure that all work link into catchment-wide initiatives that contribute to improving the health of the entire river network.

Landscape and access: develop a comprehensive landscape improvement strategy along the length of the River Colne, increasing access and adding interpretation to enrich the experience of local people.

Engagement: provide and promote opportunities for all to participate and actively contribute to the outcomes of the project.

1.3 PROJECT SCOPE:

Over the next ten years the wider 'Rediscovering the River Colne' project will be delivered across five workstreams:

1. Environmental improvement project
2. Landscape strategy and access improvement project
3. Environmental monitoring project
4. Engagement project
5. Maintenance project

Specifically referenced within this report are:

Workstream 1: Environmental Improvement Project

The project provides a site-specific river corridor and habitat improvement strategy for seven sites within Watford. The report assesses the current state of these areas and makes recommendations for improvement. The results of this work are included within the action plan within this strategy.

Workstream 2: Landscape Strategy and Access Improvement

This report provides recommendations on landscape strategy and access/interpretation improvements to the River Colne along its length in the administrative boundary of Watford. In addition to sites identified in Workstream 1, a comprehensive approach is required to the full length of the river.

The costs within the report and the action plan at appendix H collate works identified in both workstreams into one summary and costs and additional detail to add future decisions.

Also established to support the aims of the project has been a water quality group consisting of Watford Borough Council, the Environment Agency, Thames Water and other partners.

2. PROJECT AREA

2.1 Overview

The River Colne rises from a subterranean river at a spring in North Mymms Park and covers an extended area from north of the M25 all the way to the Chilterns and for large swathes, is a bucolic rural waterway. It is one of only 200 chalk streams in the United Kingdom and is therefore very rare.

Watford lies in the Upper River Colne and tributaries catchment and the Colne is the principal river, entering the borough in the east and leaving the borough in the south.

2.2 Context

Watford is one of the most densely populated non-metropolitan districts in England, with a population of 96,700 (Office for National Statistics, 2019). It is a long established urban centre, with a market charter dating to the 12th century. The town has successfully diversified from traditional industries including printing and brewing, into an attractive and popular regional shopping and business centre and a focus for culture and recreation.

Watford is part of the London commuter belt and is strongly influenced by London. This brings benefits of a buoyant economy but also significant environmental pressures such as high levels of traffic congestion with pressure on land including the greenbelt, for development.

Biodiversity is a key consideration for development management, and planning policies, including Policy GI 3 of the Council's Core Strategy which states that "proposals must seek to conserve and enhance the unique natural landscape, biodiversity and habitat".

Although Watford is a highly urban borough, it maintains conditions for wildlife, including rare species, to thrive. Watford has 342 hectares of land covered by wildlife designation including 5 Local Nature Reserves, 2 air quality management areas (AQMAs), 2 areas of ancient woodland as well as numerous green spaces. The northern section of the River Colne was designated in 1997 as a Local Wildlife Site (LWS). In the southern section there are two LWS, 84/044/01 designated in 1997 and 84/025. designated in 2004 (Herts and Middlesex Wildlife Trust Watford Botanical and Bat Survey Report 2019).

The Water Framework Directive (WFD) sets a target for all rivers within the UK to have a 'good' ecological status or potential by 2027. In 2016 the section of the Colne that includes Watford was classified overall as 'moderate' with reasons for 'Not Achieving Good' identified as flow being affected by abstraction, point source pollution from sewage outfalls (both issues linked to the water industry) and physical modification through urban development and protection from flood. Chemical classification was identified as good and ecological classification as moderate.

The Colne on the south east boundary of Watford is in close proximity to the urban area but potential flooding issues are only identified at Lower High Street (see Appendix B). Potential future development in close proximity to the Colne could exacerbate existing pressures in the area, so identifying areas for wetland expansion as identified in this project may help alleviate this pressure.

Much of the areas adjacent to the river are owned by WBC although the most urban section is in multiple private ownership. (see Appendix C).

There are potential issues around contaminated land but locations have not been confirmed for this report.

3. CURRENT SITUATION

3.1 Methodology

During the course of this study various methods have been used to identify issues pertinent to the successful execution of the project including stakeholder meetings, site visits and desk-based research. These methods have enabled the systematic identification of strengths, weaknesses, opportunities and threats.

3.2 Analysis

Summary:

- The network of green spaces of the river corridor provides an extensive, coherent green corridor through the town and an existing, access network with poor signage and limited use
- Despite there being some areas of high wildlife and recreational value much of the area is little known, some sites are unimaginative with limited, uninviting access and interpretation and suffer from neglect and misuse
- There is widespread evidence of invasive non-native species although signs of its treatment are also visible
- Access
 - The majority of use is by very local residents and there is little awareness of the path along the length of the river and links to the wider off-road networks such as the National Cycle Network, rights of way and into the town and surrounding neighbourhoods
 - There is no signage or information showing the whole route encouraging wider exploration nor understanding of the areas that they are passing through
 - Many elements of furniture, signage and sections of the paths themselves require improvement
 - There are missing links that could be established or improved including paths to surrounding housing, a new river crossing and improved route along the 'disconnect' where the path no longer follows the river
- River
 - There are issues of over-widened channels with modified gradients resulting in slow flow which is resulting in habitat degradation over time. However, signs of recovery are seen on some sites
 - A lack of habitat management has resulted in over shading by trees in parts, resulting in a lack of floral diversity
 - Elements of recent modifications do not sufficiently/no longer link the floodplain with the river
 - There are widespread issues of pollution from the many outfalls feeding into the river

3.3 Site detail – north to south

For detail relating to the river itself please see the seven river improvement plans – supporting documents. For plan presentation of detail and photographs of existing structures, conditions and wider issues see appendices D & E.

Sites are referenced by acronyms which are then used in later sections, proposal plans and the action plan.

K – Knutsford Playing Fields - north of Knutsford playing fields the area feels isolated and has been used by rough sleepers. The railings need replacement or renovation. The river banks are quite steep and not

particularly species rich. Stinging nettles are very common along with Himalayan Balsam and small patches of Japanese Knotweed are visible and require treating.

Knutsford playing fields consists of sports pitches which slope steeply on the eastern edge down to the river corridor. From the amenity area there are no views of the river but a viewing platform in the northern part of the site provides good access. The signs in this area are dilapidated and in need of renovation. From this area a narrow unsurfaced footpath that is at times muddy runs along the river with riverside vegetation very dense in places thus restricting views to the water. There has been a significant effort to eradicate Japanese Knotweed in several places.

TA - Timberlake Allotments - has a lit tarmac path leading from the carpark between the allotments and the western edge of the river. It is quite shaded in parts. On the opposite bank paths, gates and railings at the entrance to an open area are in poor repair. This area has a large pond which was created to store excess river water as part of the creation of the M1 link road. This wetland area shows limited signs of being visited and has had minimal maintenance over the twenty years since establishment resulting in minimally diverse habitats but important niches for wildlife. Works are required to ensure that the area does not dry out completely. Japanese Knotweed was noted in this area.

RR - Radlett Road Playing Fields - consists primarily of amenity grassland / sports pitches with an area of wildflower grassland in the north-west corner. To the south of the playing fields is a constructed wetland that drains to the river that was created to attenuate surface water run-off from the surrounding urban area. It also receives water from a Thames Water attenuation tank and is the source of much pollution in the river but gives opportunity for improvement. Similar to Knutsford playing fields it is not possible to see the river from the playing fields as the river is significantly below the eyeline. However, the site aspect is generally more open. Unlike Knutsford, there is no stepped access to the riverside and this makes access challenging especially in poorer weather. Despite the presence of a mown path and open space alongside the river, there are no seating areas to encourage public contemplation. Isolation on the opposite side offers opportunities for rough sleepers and exacerbates an existing litter problem not uncommon to urban rivers. In this case we see a number of sharps which detract further from visitor numbers.

W - Waterfields Recreation Ground - consists of formal amenity grassland alongside a straightened, canalised river. There is a tarmac path lined with an avenue of mature Common Lime (*Tilia x europea*) and a footbridge leading across the river to an area dominated by grassland and scrub. The river bank on the western edge is sparsely vegetated and becomes more formal with brick edging in the south. As the site approaches Water Lane there is increasing litter and poor odour. Sewage misconnections, outfall pollution and littering continue to contribute to poor water quality.

On the other side of the road, the river is heavily shaded and the path is fenced. There are rough sleepers on the eastern side and large amounts of litter, including drug paraphernalia.

Tes - as the path approaches Tesco the tree canopy opens significantly. Tesco has shown previous support for in-river works such as litter collection but the bank side, which is very steep, in poor condition and needs securing. The choice of plants is incongruous with riverside planting and could be replaced.

Disconnect - after this point there is no longer public access to the river and users are diverted onto busy roads. There is a cycle route which leads from Tesco to Oxhey Park following the former mill cut but it is poorly signposted and very congested. The inaccessible stretch of the river appears poorly maintained and is likely to suffer from the same issues as other sites such as lack of light, pollution and invasive non-native species. Additionally, ageing flood defenses mean this stretch is canalised affecting flow rates. Notably the

stretch is privately owned and any works within eight metres of the river will involve collaboration between landowners, the local authority and the Environment Agency.

O – Oxhey Park - in the eastern part of Oxhey Park the river flows through an area of secondary woodland known as The Dell. Signposting and access to the park from the town centre is poor. The construction of new facilities at Oxhey Park North may alleviate this issue. The majority of the park consists of sloping amenity grassland with more formal parkland elements. The southern edge of the river is a brick retaining wall but there have been several environmental interventions already in the river channel such as planting and the introduction of a litter boom plus berm creation to improve the flow of the river.

RI – Riverside Recreation Ground - the path crosses the road from Oxhey Park and into Riverside recreation ground. The signage here is lacking and the path and seating requires restoration or replacement. However, it is relatively open with pleasant river views and good river access. As the path heads west a fringe of scrub has developed blocking access to and views of the river near the weir known as Tumbling Bay but there are interesting habitats to be seen from the bridge itself where you enter Riverside Park. There is a raised area of wildflower meadow after the bridge with a thick border of woodland - consequently, it is not possible to see the river. A path through the Park links to the Ebury Way which crosses and then moves away from the river.

LL - Lairage Land - the Lairage Land section of the Colne is a mix of habitats between the Ebury Way and an area of housing. Access to the Lairage Land itself can be made from the housing areas of Stripling Way and Jellicoe Road. The entrances and paths need improvement but give access to a large area of reedbeds that were extended a number of years ago and now require maintenance.

Along the river margins there are areas of grassland and increasingly woodland but it is not possible to access the river and occasionally not possible to view it from the Ebury Way. Further along the Ebury Way it is possible to look from where the Ebury Way crosses the river to where the river exits the district. It is possible to see where large swathes of Himalayan Balsam were 'bashed' in this area.

The prevalence of invasive non-native species throughout the stretch remains an ongoing battle despite various to address them from a range of partners. Much Himalayan Balsam, Giant Hogweed and Japanese Knotweed plus an ongoing problem with Signal Crayfish are evident throughout the stretch an eradicating these requires ongoing long-term commitment. Invasive non-native species (INNS) were also recorded along the Colne by the Herts and Middlesex Wildlife Trust in July 2019 and are regularly monitored by WBC. Whilst 'rust' treatment for the Himalayan Balsam isn't yet available this should be considered as a potential approach in future.

4 Recommendations

4.1 Landscape masterplan – please see Appendix F for presentation of whole area and Appendix G by site.

From the site visits undertaken, group and individual meetings with stakeholders and from the detailed river restoration plans for seven sites along the river corridor, a programme of wide ranging and exciting improvements have been collated into a masterplan and action plan. These address the key objectives to ensure that the River Colne project delivers high quality accessible green space to Watford's urban environments. This is at the heart of sustainable regeneration and renewal. Proximity and connectivity play a major role in determining the usage these spaces receive. Improving access will increase public engagement with the river and bring the river corridor back under the stewardship of the local community.

Access

The access work will create a continuous, coherent, visible, accessible signed route along the corridor following the course of the river as closely as possible. New links are identified, repair of existing and installation of new facilities included but works are relevant to their location and will not over-urbanise the route yet whilst creating an improved riverside walk along the Colne River Valley as promoted by the Mayor.

This will include:

- the addition of step access to allow safe, access for all
- seating, viewing platforms and a bird hide to encourage greater interaction with the river. Including the creation of a 'destination' areas
- path and boundary improvement or installation – through improved/new surfacing, railings, gates
- signage will be key to providing a strong connection between sites throughout the north and south stretches of the Colne
 - route signage – new posts, waymarks, using the new logo to identify the whole route
 - Riverside Walk location boards at entrances to welcome people to the sites, show how the sites link together and encourage greater understanding and use.
 - Notice boards at certain locations to included details of forthcoming events
 - Riverside Walk interpretation at destinations incorporating educational information
 - Information panels will be placed on road bridges where they cross the river to remind people that the river is present
 - trails are proposed to promote an appreciation of the natural value of the river and of the built heritage assets of the area such as the Grade II listed Five Arches Railway Viaduct north of Water Lane.
- Research raised the request for a new river crossing from the Ebury Way/Riverside Park area across to Riverwell. It is agreed that such a link would provide a valuable new link to the wider off-road network. However, there are many challenges in such a project including landfill, floodplain and limited available space but costs are identified in the action plan. An early scoping study into this option is recommended to consider the key points to identify whether this such a structure is possible.



A coordinated signage palate highlights the linkages along the river (images provided by www.fwdp.co.uk)

Art & heritage

There are many opportunities for introducing arts and heritage to the river corridor and at many scales involving professional artists and also the local community.

A proposed focus is along the walking, cycle path that takes the route away from the river along the Old Mill Cut which has been culverted behind Tesco and Century Business Park and then enters Oxhey Park across the River Colne at what will be, the North Oxhey Park Cafe. This is currently a heavily congested urban route. It is proposed to create a flowing art trail through this urban disconnect area to inform and engage users with what is under their feet. There will be a combination of a flowing river set into the pavement with associated art features at a higher level to draw the eye through the route. There is potential to develop this in partnership with the Watford Museum to capitalise on heritage landmarks such as the Pump House Theatre. This work would also take the opportunity to link people to the sections of the cut that still exists and as such promote the river route as a whole.

Research found that the art elements previously installed in the parks along the river and that are directly related to the heritage and environment of the sites were very popular. Additional art installations by Luke Perry, the original sculptor are proposed helping to create a sense of continuity along the length of the river. Other potential artistic interventions include restoration of an existing mural and delivery of another. This can be developed further through elements of community engagement over the ten-year project.



River landscape

Works identified within the river improvement plans include:

- Works within the river to create two stage channels, berms and flow deflectors to allow the river to respond appropriately to both high and low flows
- create new features such as backwaters and scrapes to add habitat diversity
- habitat management to allow greater light onto the river channel and to stop degradation of habitats through encroaching reeds etc
- work around outfalls to improve water quality where possible
- installation of bat boxes
- identification of management actions to manage habitats appropriately.

Wider opportunities

It is anticipated that many of the recommendations of the site specific river improvement plans can be applied to the privately owned section of the river between Tesco and Oxhey Park in the future as

opportunities arise through development and wider corporate engagement through other elements of this project. Special efforts need to be made to collaborate with landowners on their responsibilities regarding flooding and issues such as appropriate maintenance in these areas which have potential to negatively affect the corridor as a whole whether that is flooding downstream or allowing the spread of invasive non-native species.

Various opportunities are available for works outside of the immediate river corridor and these could be developed in a further stage of the project. For example, redevelopment and regeneration may provide opportunities for enhanced flood and water management using run-off capture measures. (green roofs, permeable paving, filter strips and swales). River restoration can contribute directly to urban regeneration by offering sustainable flood management, improved environmental quality or by creating an aesthetic identity for urban areas. A sense of place can be established that enables people to connect with each other and connect with their neighbourhood. As such, opportunities to increase habitat value, open culverts and re-naturalise river channels should be considered.

The improvement of the river habitats can also have important biodiversity and climate implications. The improved bankside management should enable the population of water voles currently at Croxley Common to populate higher up the valley. The potential for an element of reintroduction of a population has also been costed. Works to the reedbeds around Timberlake may create areas that bitterns could also return to. The value of the trees and wetlands of the river corridor should not be underestimated in carbon sequestration benefits which are vital in the light of the current climate crisis. Extension of such areas will be myriad benefits whilst the removal of trees must be done carefully to strike the right balance between light getting to the river and removing this carbon store.

All members of the steering committee are keen to draw public awareness to the connection between overuse of water and the lack of public supply and events and engagement activities linked to the practical work provides huge scope to increase knowledge of the whole water cycle.

4.2 Summary of proposals

The full details of the proposals are shown in the Action Plan, Appendix H, and include the costs and organisation and stakeholders to drive improvement.

Installation of information/interpretation boards are identified for all sites but other works are summarised below, access first and then river landscape works.

K - Knutsford playing fields the proposals include

- Continuation of sculpture trail
- Creation of new path and improvement to existing paths, and creating safe crossing

in addition to

- River restoration including creation of low lying marginal shelves with associated planting
- Selective tree felling to increase light to increase plant diversity
- Formalise grazing regime on Affinity Water land
- Improve habitat for roosting of bats
- Resolve pollution problems

TA - Timberlake Allotments the proposals include

- Installation of platform overlooking reedbeds
- Creation of safe crossing

in addition to

- Enhance pond area by reconnecting it to the river, enlarging the area of open standing water and improving annual management of the reedbed.
- Diversify river channel including inclusion of brush berms and associated small pools
- Improve habitat for roosting of bats

RR - Radlett Road Playing Fields the proposals include

- Installation of bench at viewing point
- Improve access with steps at 2 locations and new tarmac path

in addition to

- Restoration of constructed wetland with modifications to provide extensive reedbeds.
- Reconnect backwaters to the river, desilt and create low lying marginal shelf with planting
- Enhancement of existing ditch network and the Hillfield Brook.
- Reprofiling of the river channel via the installation of brush berms and marginal shelves.
- Improved management of the riparian zone
- Removal of invasive species
- Resolve pollution problems

W - Waterfields Recreation Ground the proposals include

- Create mural under bridge
- Creation of safe crossing

in addition to

- Reprofiling of the river channel via the installation of brush berms, marginal shelves and bank regrading.
- Create pondscape on Cadent Gas land
- Backwater and wet woodland works
- Invasive species removal
- Resolve pollution problems

Tes/Disconnect - Area of disconnect and Tesco the proposals include

- Improve signposting and art, including hard landscape for heritage path along 'Hidden River'
- New waterside native planting and biodiversity interpretation board
- creation of safe crossing

O - Oxhey Park the proposals include

- Improved signage to Ebury Way
- Repaint bridge and create mural
- Continuation of sculpture trail

in addition to

- Improvements to wet woodland
- Woodland management works
- Grassland management
- Continuation of existing enhancement project undertaken by local volunteers.
- Relove pollution problems

RI - Riverside Park the proposals include

- Installation of information and interpretation boards
- Open up views to the river from Ebury Way

- Replacement of benches

in addition to

- Creation of pond network adjacent to river corridor.
- Installation of fish passes on 2 weirs.
- Improved management of the riparian corridor
- Installation of brush berms and flow deflectors.
- Improved wildflower meadow management.
- Resolve pollution problems.
- Invasive species removal

LL - Lairage Land the proposals include

- open up views to the river from Ebury Way
- create footpath and install bird hide

in addition to

- reprofiling of the river channel via the installation of brush berms and deflectors
- removal of historic bank revetment
- creation of backwaters and ponds
- riparian tree works
- resolve pollution problems
- invasive species removal

4.3 Summary of total costs

See action plan at appendix H for a detailed breakdown and timings of all works. All cost estimates are based on recent quotes from local contractors for similar activities or from experience of other project delivery. Where removal of material is required and a range of costs are possible the higher costs has been used. As early as possible silt investigation should be undertaken for these costs to be reviewed.

Site	Signage	Route impr/creation	Other landscape/ furniture/ misc.	Art	River works	Total
Knutsford	9,250	15,750	8,750	15,000	92,450	141,200
Timberlake	7,500	12,000	23,250	0	278,300	321,050
Radlett Road	7,500	26,500	3,750	0	497,800	535,550
Waterfields	8,000	12,000	0	0	125,000	150,000
Tesco/disconnect	12,000	36,000	0	50,000	1,500	99,500
Oxhey Park	8,000	12,000	5,000	20,000	20,600	65,600
Riverside Rd/Pk	5,500	310,000	3,500	0	69,500	388,500
Lairage Land	4,000	20,000	500	0	164,500	189,000
Total build	61,750	444,250	44,750	90,000	1,249,650	1,890,400
Contingency 10%						189,040
Fees est 15%						283,560
Inflation						56,712
TOTAL COST						2,419,712

Costs of maintenance will be developed as management plans for each site are produced as works are completed. Current estimates are a cost of £53,000, £32,000 via contractor and £21,000 for volunteer costs.

4.3 Identification/explanation of Improvement Priorities

Summary of proposed priorities

Access & signage – to meet the priority of the Mayors manifesto signage of the whole route and initial physical work to ensure an accessible route exists along the whole route. Also, development work on the disconnect section including heritage/art elements **COST: £90,000**

River restoration work – due to the close proximity of work and closely linked environmental outputs the four most northerly sites are identified as the priority for action– Knutsford, Timberlake, Radlett Road and Waterfields. This would include – 2 stage channel and wooded debris installation, wetland scrapes, backwater restoration, marginal berms and tree works as required per site. Design and permitting would take place in 2021-22 with delivery taking place in 2022-23. **COST: £355,000**
£100,000 has already been indicated towards these works via EA and Affinity Water providing that WBC can provide match funding.

In more detail

The main priority for the access improvements is the delivery of a 'riverside walk' which was included in the Mayor's manifesto. This can be achieved through

- minor surfacing improvements and new sections to ensure safe, easy access to all
- providing a cohesive signage strategy and rebranding along the length of the walk
- linking the north and south more clearly through signage and development to create a flowing art trail to the disconnect section following the established cycle route and roughly old course of river branch.

Additional boards relating to heritage and nature to support the creation of trails is included in the second phase of works. Watford Museum is keen to be involved with this element of work, with the extension of the art trail incorporating historical murals and additional art sculptures by Luke Perry. The second phase also includes path improvement works including new paths plus seating.

The high priority works of the River Improvement Plans are

- Knutsford Playing Fields - 2 stage channel with wooded debris installation and wetland scrapes
- Timberlake Allotments: backwater restoration and wooded debris installation
- Radlett Road: backwater restoration, marginal berms and wooded debris installation
- Waterfields: 2 stage channel, bank scalloping, wooded debris installation, backwater and wet woodland works
- A plan of tree works required for all activities.

Site investigation works will inform detailed designs plus quantities and costs for the river improvement works. Methodologies for each construction activity can then be produced and consents obtained. The design works will also inform a plan for volunteer habitat improvement works consisting wooded debris installation and bat box installation at the 4 sites.