

Project:	Brent Cross Development	Job No:	47075790
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Introduction

This report is prepared by AECOM (formerly URS) as part of infrastructure design services for the Brent Cross Cricklewood (BXC) regeneration project. AECOM has been engaged by Brent Cross Cricklewood Development Partners to provide design services, for the regeneration of a site within the Cricklewood and Brent Cross areas of North London within the London Borough of Barnet.

Planning Permission Ref No.C/17559/08 for the comprehensive redevelopment of the Brent Cross Cricklewood ("BXC") Regeneration Area was granted in October 2010 (the "2010 Permission"). A Section 73 (S73) planning permission (2014 Permission) Ref No. F/04687/13 to develop land without complying with conditions attached to permission Ref No. C/17559/08 was granted by London Borough of Barnet (LBB) on 23rd July 2014.

The proposed route of the River Brent re-alignment is located further to the south of the existing channel, where it will flow around the development surrounding the existing Brent Cross Shopping Centre and closer to the A406. The Brent Riverside Park will be created along the banks of the River Brent. This will provide a variety of experiences along its length, from ecological areas, to more intensive urban environments where the river passes the Brent Cross Shopping Centre. Within the riverside park there will be opportunities for seating and informal recreation, as well as strategic cycleways and footpaths.

Welsh Harp Reservoir

The River Brent passes beneath the M1 and A5 Edgware Road into the Welsh Harp Reservoir approximately 200m downstream of the site and is designated as a SSSI and Local Nature Reserve (LNR) for its wide range of breeding birds and lowland fen habitats across the site. River flow modelling of the River Brent, undertaken for the realignment and presented in the FRA demonstrates that water levels from the reservoir back up into the lower reaches of the site, and under some flow conditions surface water drainage away from the site is impeded.

River Brent re-alignment

The design of the River Brent re-alignment consists of three relatively distinct reaches. Two highway roundabouts form the approximate boundary between each reach. These are defined as Reach 1, Reach 2 and Reach 3 progressing in the downstream direction.

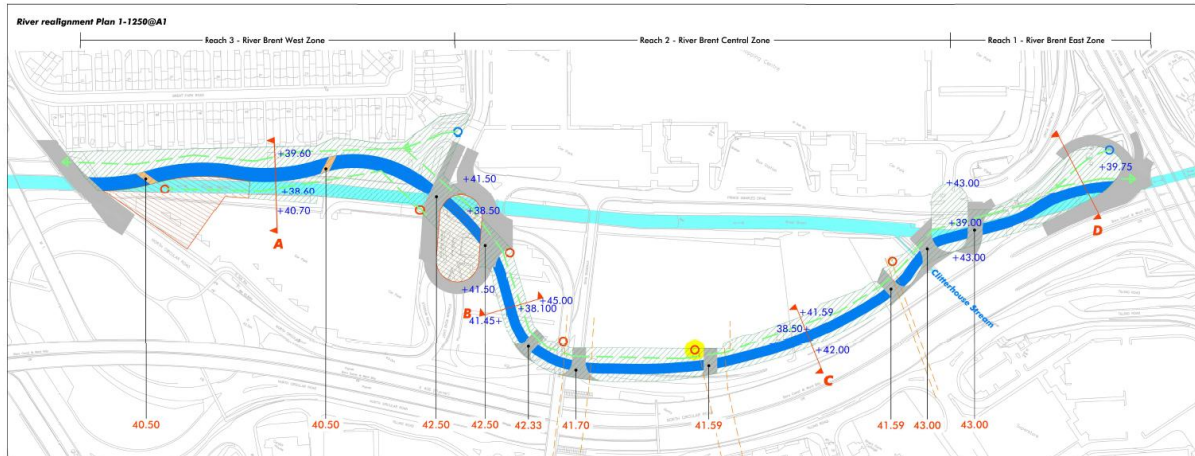


Figure 1: River Corridor Parameter Plan (from 2013 Section 73 planning application)

The existing course upstream to the east and downstream to the west of the Brent Cross Shopping Centre respectively will also be realigned, but to a lesser extent. Ten new/replacement bridges over the River Brent are proposed. These bridge crossings are to be used by pedestrians, as public cycle-ways, for vehicles or for combinations of these.

The design of the re-aligned channel is focused on key restoration objectives, parameters and intended character for each reach of the Brent Riverside. The focus is on the naturalisation of the river and the creation of a riverside park, which grades from a more ecological environment in Reach 1 and Reach 3 and a more urban park environment in Reach 2, where the river runs adjacent to the Brent Cross Shopping Centre. Reach 2 and Nature Park 5 form the focus of this Design Development Report.



Figure 2: Indicative Masterplan (26th May 2015)

Water Framework Directive Assessment

The Water Framework Directive (WFD) Assessment (Doc. No: 47065005-RH-RPT-002) was originally completed by URS (now AECOM) in October 2013 to support the Section 73 planning application. The WFD assessment provides high level descriptions of the existing baseline conditions of the River Brent relevant to the site, and objectives for improving the river's environmental status.

While details of how to achieve water environment improvements within the boundaries of the river corridor have progressed since completing the WFD assessment, the general arrangement for the channel diversion within the site layout has not changed significantly and therefore the findings of the assessment remain valid.

As the water body within the site area has previously undergone a large degree of hydromorphological alterations, including straightening and narrowing of the channel for flood alleviation, the River Brent is classified as a 'Heavily Modified Water Body' (HMWB). The River Brent is currently designated by the Environment Agency as having 'Moderate Ecological Potential'. Under the parameters set by the WFD and shown in the Thames River Basin Management Plan (RBMP), 2009, it is necessary to improve water quality to a 'Good Ecological Potential' by 2027.

Mitigation Measures

The realigned channel will be lined to prevent contaminated land impacting on water quality of the River Brent and ultimately the Welsh Harp Reservoir, so there would be no effects on biodiversity relative to present conditions. This will also prevent any water quality issues impacting the Brent Reservoir downstream of the site.

As the proposed re-alignment positions the channel alongside the A406, it is important to prevent the spread of contaminants from roads into the River Brent and the Welsh Harp Reservoir, and therefore a number of mitigation measures are proposed, such as oil interceptors. As the reach through the site inherits poor water quality from sources upstream in the catchment, there is little potential to significantly increase the water quality before it discharges into the Welsh Harp SSSI. However, the scheme will not allow the existing status to deteriorate, or prevent any mitigation measures that have been recommended in the Thames RBMP from being implemented in the future. There is the potential for improvements to the biochemical and biological quality to be achieved through implementation of measures that improve the water environment. Sediment deposition will be encouraged through the strategic placement of cobbles or small boulders to create a more natural self-regulating low flow channel and riparian vegetation will be allowed to colonise the landscaped areas to increase biodiversity.

The proposed re-aligned river corridor includes the creation of a two-stage channel, with a smaller scale third stage channel 'notch' for low flows intended to meander with greater sinuosity within the second stage channel. The different channel stages will have a variety of native vegetation species to encourage colonisation of the riparian zone and the transition from aquatic to terrestrial areas of the river banks. One aim for the proposed re-alignment is to create a "stopping off point" for species such as butterflies and birds between areas of development and increase the overall level of biodiversity found in the area.

Conclusion

There is the intention that the diversion of this section of the River Brent and the creation of the Brent Riverside Park will unlock the potential of the River Brent and reveal it as a major asset to the site, the public and the environment (in particular downstream of the realignment), by creating a park with:

- Improved water quality and reduced flood risk;
- Significant biodiversity value and ecological habitats;
- Positive amenity value as a riverside park and key cycle / pedestrian route for existing residents as well as visitors to Brent Cross Shopping Centre

Overall the Welsh Harp Reservoir will not be impacted by the proposed development and there is likely to be some improvement in the water quality as a result of the mitigation measures proposed.