Discontinuation of Hurst Reservoir and Restoration of Hurst Brook

Environmental Statement

Non-Technical Summary

United Utilities

7th December 2012

Introduction and Background

Hurst Impounding Reservoir (IR) is owned and operated by United Utilities (UU). The reservoir built in 1838, was used to supply drinking water via the Hurst Water Treatment Works until 1997. The reservoir no longer supplies drinking water and performs no operational function. The reservoir comes under the terms of the Reservoirs Act 1975 and as such is subject to regular inspections. UU has an obligation to address the risks identified through these inspections, and has been given until 2013 to begin to undertake the safety measures recommended. It is proposed that the most sustainable solution to achieve the recommendations, will be achieved through the removal of the dam and restoring Hurst Brook to its natural course through the valley using the material from the embankment to re-profile the valley sides.

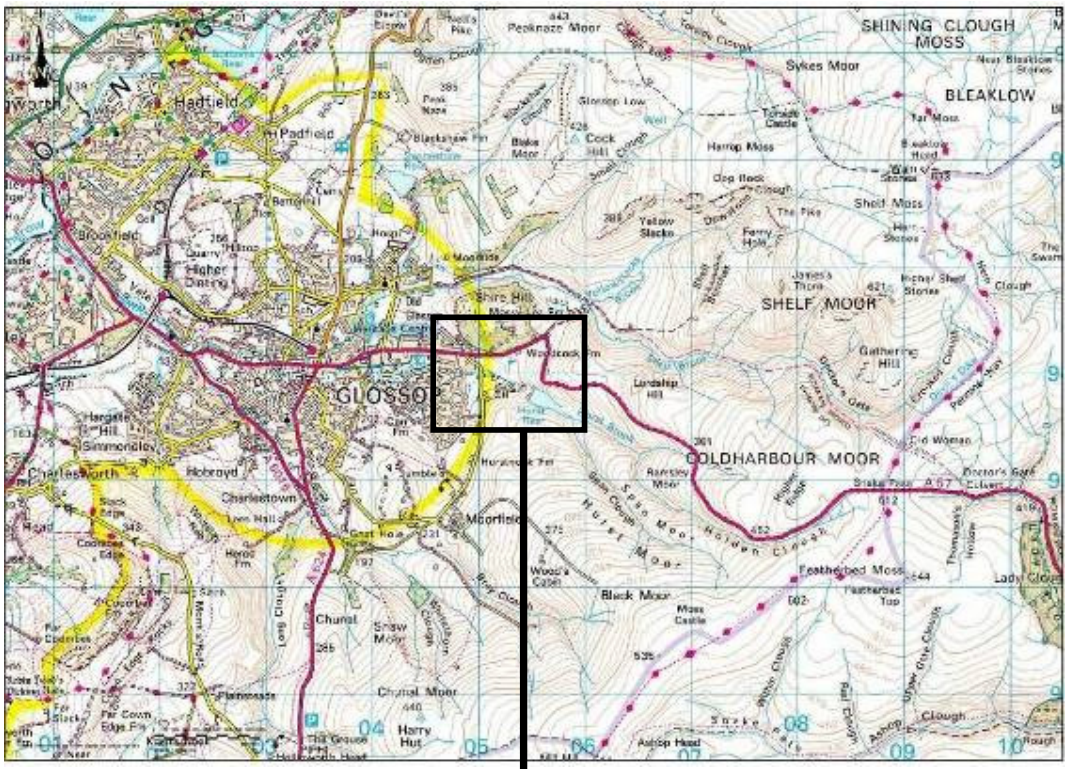
Scheme Location

The Reservoir is situated around 2km east of Glossop town centre, on the outskirts of the town, just south of the A57, Snake Pass. (See plans 1 and 2)

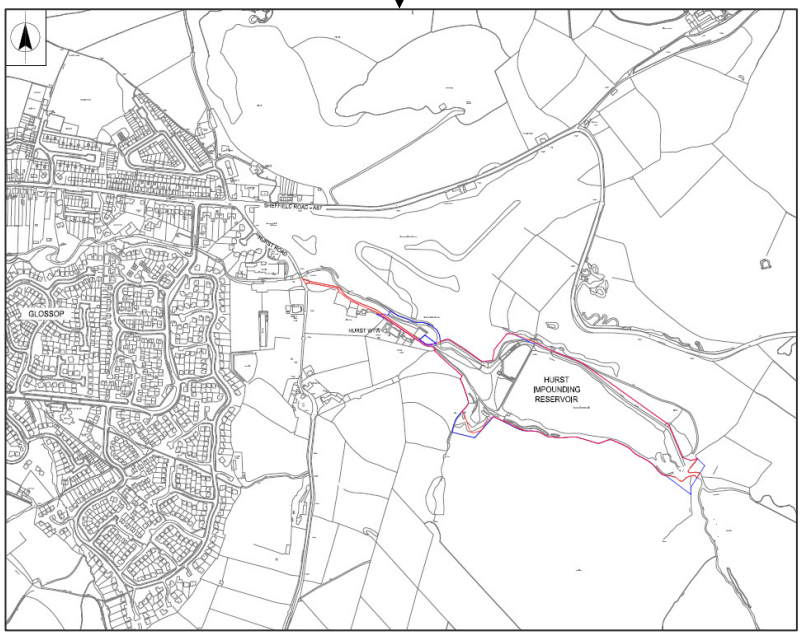
The reservoir lies within the Peak District National Park (PDNP) which is also the local planning authority; however the boundary with High Peak Borough Council (HPBC) which covers Glossop town centre is located only 250m west of the reservoir embankment. The site is bounded by Glossop and District Golf Club to the west and the South Pennine Moors to the north, south and east. Down-stream of the reservoir Hurst Brook continues to flow north westwards into Glossop.

Access to the site is via the main golf club access off Hurst Road, from the A57 Sheffield Road. Access to and around the site is restricted. There are two private residential properties on the track adjacent to the golf club house. There are no Public footpaths within UU owned land. (See Plan 4; environmental constraints)

Plate 1: View of the reservoir from the east.



Plan 1: General location



Plan 2: Detailed location, redline shows the planning application boundary.

The Scheme

The earth embankment across the valley, which forms the dam and reservoir, will be removed along with a concrete channel, known as a bywash channel, which runs around the northern side of the reservoir. The earth from the embankment and the silt from inside the current reservoir will be used to reform the natural valley shape.

Plate 2 Reservoir embankment looking north.

Plate 3: the bywash channel and spillway (on right) from the reservoir.

For several years the amount of water held in the reservoir has been decreased for safety reasons. The reservoir has been slowly drained of water, which will allow the site to dry before works begin.

A private access track runs adjacent to the bywash channel on the northern side of the reservoir and enables vehicular access to the far end of the site. A further private access is

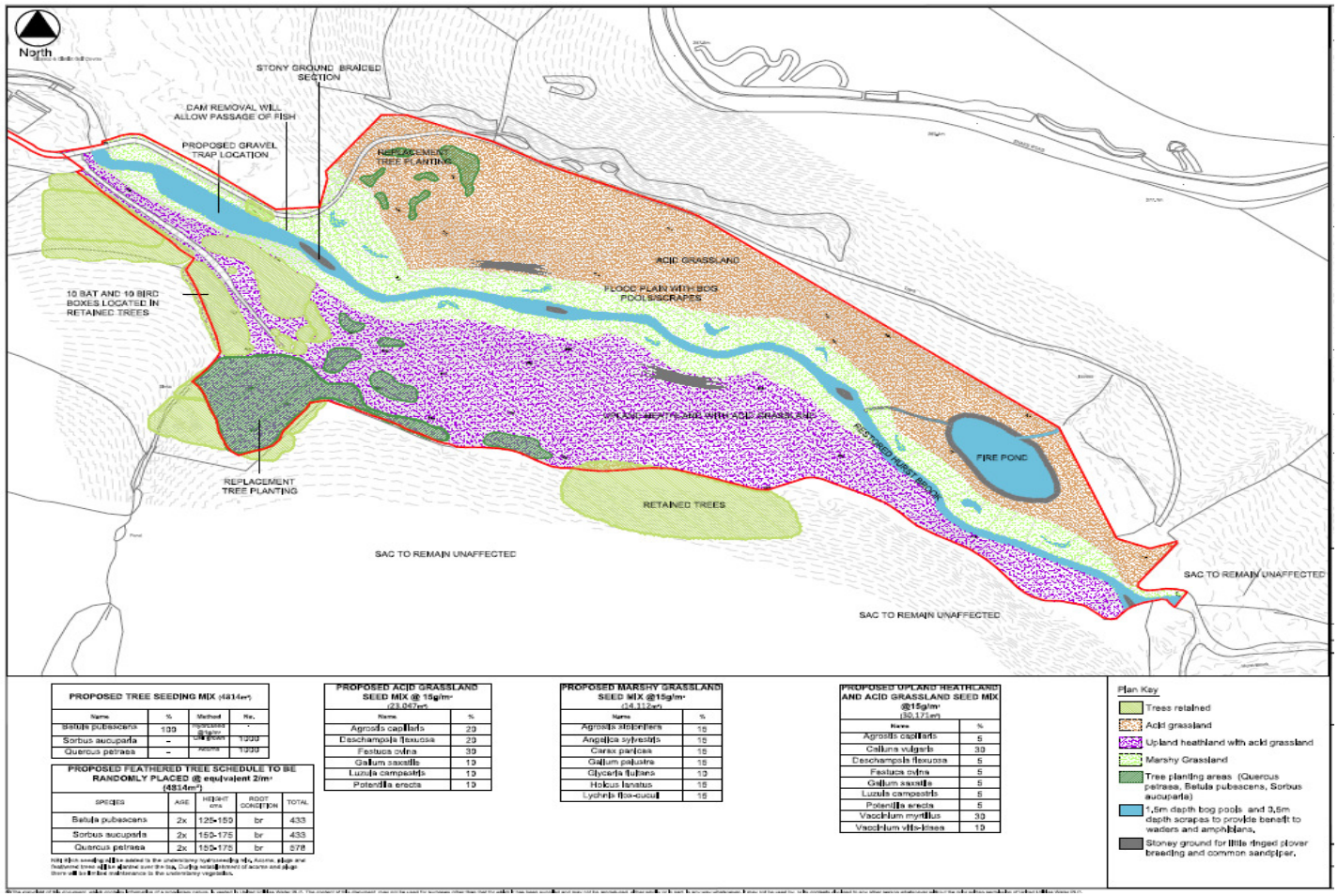
available to the southern side of the embankment, running from a bridge across Hurst Brook at the bottom of the dam up a steep track to the top of the embankment. This track will be used during the construction of the site for access.

The valley bottom will be shaped to look more natural and a new channel for Hurst Brook will be created that will flow through it; this channel will be 0.6m deep and around 4m wide. A variety of habitats will be created including marshy grassland with scrapes and pools along the valley bottom, grassland and heathland along the valley sides and areas of woodland creation (see Plan 3: Landscape proposals) The course of Hurst Brook will be returned to as close as possible to its original course (prior to the dam being constructed) to flow through the bottom of this newly created valley floor.

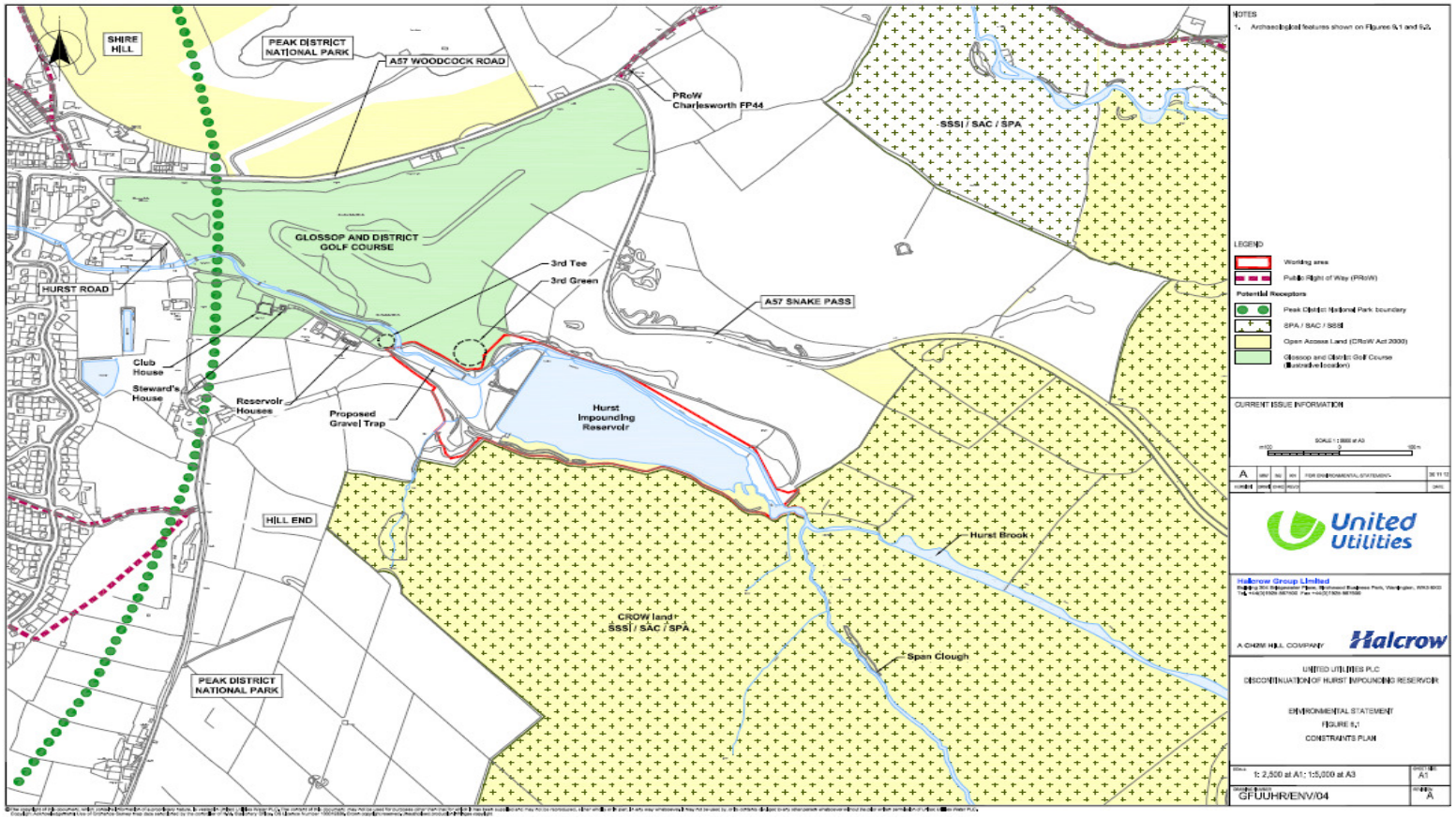
Any additional silt will be placed in a small disused quarry (originally used to supply stone to create the reservoir embankment) located to the south of the access track approaching the reservoir.

A small structure will also be constructed in the channel of Hurst Brook downstream of the current dam wall to trap larger stones, boulders and pebbles that will be washed down the new valley. This structure, known as a gravel trap, will allow material to be removed easily and safely, preventing it from being washed further down the brook.

Plate 4: A view of the reservoir dam from the golf course



Plan 3: Landscape proposals



Plan 4: Environmental constraints

Construction Information

A site compound will be created initially at the site of the disused quarry to the south of the golf course. The compound will include welfare facilities, areas for storage of materials, an office, parking areas, areas for refuelling and waste disposal. As works progress the compound will be relocated to an area within the reservoir/new valley to allow for silt to be reused in the quarry.

Vehicles to and from the site will be of a maximum 11 per day to allow for staff and delivery of materials, it is proposed that all the material from the dam will be reused on site however there may be a small amount removed for recycling, for example some of the stone work from the dam wall.

Construction of the works is due to begin in Spring 2013 with a finishing date of February 2014. Working hours will be restricted to 8am to 6pm on weekdays and 8am till 12pm on Saturdays. The contractor will produce a Construction Environmental Management Plan to manage the site and to ensure compliance with legislation, best practice and mitigation measures.

Consideration of Alternatives

Alternatives considered included building a new spillway channel, repairs to the dam wall to make it watertight and strengthening of sections of the dam embankment to improve stability. The preferred option was chosen as it will provide a more environmentally sustainable, solution compatible with its location within the Peak District National Park.

Approach to Environmental Assessment

The assessment of impacts upon the environment has been carried out in line with the relevant legislation and has followed best practice guidance. The assessment has considered the existing condition of the environment, the way this may change due to the new scheme, and how measures can be used to reduce the impact of these changes. Early and ongoing consultation was carried out with the following:

- Members of the public and landowners within and around Glossop via various public exhibitions.
- Relevant groups and public bodies such as the Environment Agency, Natural England, English Heritage and the Wildlife Trusts.
- Peak District National Park Authority, High Peak Borough Council and Derbyshire County Council.

Environmental Impacts and Proposed Mitigation Measures

Construction Impacts

Impacts upon the environment are limited to the construction phase.

Dust impacts are likely to be limited to within 50m of the working areas and as the closest residential property is over 200m away from the toe of the dam. With standard best practice employed by the contractor there are unlikely to be any impacts from dust emissions.

Work to the gravel trap is nearer to the two properties but this work will involve very limited construction. Whilst some construction activities and machinery may be noisy with best practice measures employed by the contractor, such as using silencing equipment and limiting working hours there are unlikely to be any significant impacts from noise.

During construction there will be large areas of bare earth during the removal of the dam and the creation of the new valley and new channel for Hurst Brook. A Construction Environmental Management Plan will be produced by the Contractor which will include measures to be taken to reduce the risk of water pollution occurring. With these best practices measures employed on the site potential impacts will be minimised.

The access route to the site will be along the existing access route from the A57. There will be a maximum of 11 vehicles travelling to and from the site each day, on most days the number will be less than this, this will include staff vehicles, delivery wagons and light vehicles. Car parking will be provided on site and once earth moving machinery is on site it will be kept on site until no longer needed. These numbers of vehicles will cause a very small change compared to the existing situation and the change is not enough to be of concern in terms of capacity or safety.

A Site Waste Management Plan will be produced and updated as the works are carried out. This will record any sources and types of waste and how the waste will be disposed of.

Plate 5: example of a gravel trap from nearby Shelf Brook.

Ecology and Nature Conservation

The discontinuance of Hurst IR is considered to have an overriding minor-moderate beneficial impact on ecology. The proposal to remove a redundant industrial (albeit naturalised) feature from the landscape and to restore the valley to a condition similar to that prior to the existence of the reservoir will result in habitat creation of heather, acid grassland and marshy grassland, together with the restoration of 600m of water course. Additional aquatic habitats include scrapes and bog pools within the flood plain.

The design philosophy of the project has been to integrate mitigation into the design phase and this has taken into account the existing baseline ecological conditions of the site and surrounding area. Extended phase 1 habitat surveys were undertaken to identify the range of habitats present within and surrounding the development area and to inform the proposed landscape design. The majority of the habitat around the reservoir is dwarf shrub heath with smaller areas of grassland, woodland and scrub. While the engineering works will lead to a loss of these habitats within the development area the proposed habitat creation will lead to a gain in area of these habitats. The restoration of the water course is in line with the objectives of the Water Framework Directive.

A number of specific surveys were undertaken to identify the range of species using the site and this identified that the main interest features are the breeding bird assemblage, particularly wading birds such as the common sandpiper, foraging bats and common lizard. Following consultation responses the landscape has been designed to favour ground nesting birds and provide conditions suitable for a range of species, however, it is also considered that the site will still be suitable for foraging bats and that its value will increase as the habitat matures. The reinstatement of Hurst Brook will be of significant benefit to fish as it will enhance hydrological connectivity to facilitate the passage of fish species.

No rare or protected plant species were identified during the surveys. No non-native invasive species were found to be present within the development area, however, Himalayan balsam was identified on Hurst Brook downstream of the reservoir.

The site is boarded to the south and east by the South Pennine Moors Special Area of Conservation, South Pennine Moors Special Protection Area and the Dark Peak Site of Special Scientific Interest. This area has been designated as internationally and nationally important for the range of habitats including dry heath and blanket bogs and species including a number of breeding raptors and wading birds. The proposed works will not directly impact upon the designated sites and mitigation has been proposed to prevent any indirect impacts. The habitat creation has been designed to complement the designation and natural character of the surrounding landscape context.

A number of potential impacts during the vegetation clearance and earth movement activities have been identified and specific mitigation has been developed to avoid impacts on breeding birds, common lizard and common amphibians as these cannot be addressed by the inbuilt mitigation. There will be an environmental manager on site who will be responsible for producing a Construction Environmental Management Plan and ensuring it is implemented.

To ensure that the potential benefits of the proposed development are realised a long term Landscape Maintenance and Management Plan has been developed which incorporates monitoring of habitat for both flora and fauna to ensure management is appropriately

targeted to the site specific requirements. Overall this is considered to be an environmentally beneficial project.

Plate 5: Before and after visualisations, looking toward Glossop

Landscape and Visual

The Peak District National Park authority has characterised the area as the Dark Peak Western Fringe: Valley pastures with industry. The site is immediately adjacent to the Dark Peak: Moorland slopes and cloughs and currently relates more directly with the wider Dark Peak landscape character area to the south and east of the site which are typically the wilder, least developed parts of the National Park with large areas of open moorland.

The land around the reservoir is mainly open but remnants of dry stone walling mark historic boundaries and timber post and wire stock fencing demarcate other landowner boundaries. The steeply sloping topography around the site encloses the reservoir. There is scattered, self-seeded young scrub vegetation developing along the southern shore of the reservoir, around the 3m drawdown margins and along the northern fringes of the SSSI/SPA/SAC. Dense belts of plantation woodland and scrub cover the southern valley slopes and disused quarry site to the southwest of the reservoir, and link with the extensive tree cover of the golf course to the west. This vegetation cover contrasts sharply against the heath moorland of the slopes and cloughs east of the dam.

Plate 6: View of golf course from reservoir

There are no residential receptors with views of the reservoir though there are several residential properties situated west of the site where residents have views of the dam and associated infrastructure downstream of the dam, albeit partially screened by the dense tree cover on the slopes and throughout the golf course. There are distant views of the dam from residential areas in the central and western areas of Glossop. However, only parts of the dam

face are discernible and these distant views are seen in context with the significantly broader views of the Dark Peak which are an important feature of the town and not significantly influenced by the presence of the dam or reservoir.

There is no public access into the site though it is surrounded to the south and east by Open Access Land designated under the Countryside and Rights of Way Act 2000 (CRoW). These areas are relatively inaccessible due to the moorland vegetation limiting the ease of access and pedestrian use. Open Access technically extends into the site up to the southern edge of the reservoir though the operational site areas are currently excluded as 'Excepted Land' under the CRoW Act due to United Utilities operations.

There are no Public Rights of Way (PRoW) located within open view of the site in the immediate surrounding area. The Pennine Way, a long distance route follows the ridgeline 3km east of the site with distant views of Hurst IR. The A57 Snake Pass leaves Glossop in an easterly direction as it climbs the valley side above the northern boundary of the site. Motorists using the A57 have panoramic views of the wider area though views of Hurst reservoir are limited due to landform and level variation.

Plate 7: View from A57 looking westward toward Glossop

The discontinuance of Hurst IR is considered to have an overall slight beneficial effect on the landscape and visual resource of the study area. Due to the scale of the surrounding moorland and expansive nature of the views across the hills relative to the modest size and position of Hurst IR the permanent removal of the water body and associated features will have limited effect on the wider setting and overall character of the Dark Peak and the National Park. The reservoir currently acts as a marker for the transition between the lowland character of the Glossop and District Golf Course and residential areas of Glossop

west of the dam and the upland character of the Dark Peak Moorland Slopes and Cloughs to the east. Due to the nature of the site use it does not currently provide a natural transition, with engineered features, spillways and a linear edge to the water body along the dam at the west end. The reinstatement of Hurst Brook will address this issue.

The permanent removal of the water body will remove a small, locally prominent feature from the expansive moorland landscape on the edge of the National Park. At the same time the scheme will allow for the reinstatement of Hurst Brook in a naturalised channel with a variety of wetland habitat features. These features will be integrated into the site by a sensitively designed scheme combining landscape and ecological elements. Due consideration will be given to the wider characteristics of the National Park landscape as well as the more detailed aspects of habitat creation appropriate to the location and sensitive neighbouring sites. Based on the watercourse alignment prior to impoundment of Hurst Brook the scheme provides an opportunity for full reinstatement of the clough. This will extend the characteristic heath vegetation of the existing slopes and cloughs into the reservoir site with corresponding benefits to the landscape and views of the area. Benefits will be primarily due to the removal of the dam re-establishing a visual and physical connection through the landscape and effectively reinstating the continuous edge of the moorland up to the boundary of the National Park.

Plate 8: View looking west showing inlet structure with reservoir beyond

Archaeology and Cultural Heritage

The impacts upon Archaeology of the proposed works are considered to have minor/negligible impacts.

Hurst Reservoir was constructed around 1837, in response to the need for water to power mills during a period of local industrial growth. In 1959 the reservoir was passed to the Manchester Corporation Waterworks, after which modifications and additions were made to structures that combine to form the reservoir. The current proposed construction works will comprise the removal of many of these components of the reservoir. In total 34 non-designated heritage assets lie within the application site and most of these are components of Hurst Reservoir. Due to the long history of human activity and habitation in the surrounding area, there is potential for previously undiscovered archaeological features to be buried within the site. If such featured are uncovered during the works a method of approach will need to be agreed with the archaeologist at the National Park authority. There are no heritage features within the application site that are protected by law.

All of the impacts upon those heritage features we currently know about will occur within the construction phase and mainly include their demolition associated with removing the structures of the reservoir.

As the heritage features associated with the reservoir will be lost a record of them will be made prior to their removal. Archaeological monitoring will be undertaken during construction works. This will ensure preservation by record of any archaeological features exposed during the construction of the scheme. Further surveys will be undertaken once the reservoir is drained to identify if any heritage features have been exposed or are likely to be present.

Conclusion

To fulfil its obligations under the 1975 Reservoirs Act United Utilities has an obligation to identify and act on any risks involving its reservoirs. United Utilities has developed a scheme to remove the now redundant Hurst Impounding Reservoir dam and undertake restoration works to the valley and Hurst Brook. The scheme will restore 600m of the watercourse to a natural state. The mosaic of terrestrial habitats to be created will, in the longer term, offer greater biodiversity gain than the current reservoir.

A number of environmental impacts have been identified during the assessment but these can be suitably managed so that overall any impacts are minimised.

For Further Information

Please contact the Peak District National Park Planning Services Team.