

Havant Thicket Reservoir

Phase 2 Reserved Matters

Environmental Statement of Conformity (Wetlands)

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Revision history

Rev	Date	Updates	Originator	Checker	Reviewer	Future Water approver
P01	28/11/23	Draft for PW review	AH	EM	AB	JH
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1. Introduction

Background

Future Water commissioned Royal HaskoningDHV to prepare an Environmental Statement of Conformity in support of the Phase 2 Reserved Matters application for the Havant Thicket Reservoir Scheme. Phase 2 of the Reserved Matters relates to the wetland area, which includes the retaining structure earthworks and wetland flow control structures.

The Havant Thicket Reservoir Scheme was granted planning permission subject to conditions in October 2021, by Havant Borough Council and East Hampshire District Council, Planning Application Refs: APP/20/00990 and 51680/001 respectively. The decision is for a hybrid application and includes full permission for some matters and outline permissions for others.

This Environmental Statement of Conformity assesses the Phase 2 Reserved Matters design proposals against the consented Scheme and evaluates the implications of the Phase 2 Reserved Matters on the validity of the conclusions of the 2020 Environmental Statement (ES) (Havant Thicket Reservoir Project, Atkins, 2020).

This work has involved the following tasks:

- Review of the environmental documents submitted with the planning application for the Consented Scheme, comprising the Havant Thicket Reservoir ES which assessed the potential environmental effects of the Consented Scheme;
- Review of the wetlands design prepared for the Phase 2 Reserved Matters;
- Consider the implications of the Scheme and the likelihood for the findings of the 2020 ES to be altered either positively or negatively, or neutrally (no change to positive or adverse impacts).

Where relevant, further environmental information has been provided to support this Environmental Statement of Conformity.

2. Purpose of the wetlands

The objectives of the wetlands is described in the Havant Thicket Reservoir Landscape and Ecology Management Plan (LEMP, Atkins, 2022)¹ and are summarised below. The LEMP is based on mitigation and compensation measures for landscape and ecology set out in the ES submitted with the planning application in 2020, and the Biodiversity Mitigation and Compensation Strategy (Atkins, 2020 doc no: HTR-ATK-ZZ-ZZ-RP-Y-0001) which was submitted and approved under the s106 legal agreement associated with the Hybrid Planning Permission.

Objectives

- A wetland retaining structure will retain water in the wetland when the main reservoir water levels are low. Water levels will naturally fluctuate;
- Creation of approx. 10.2 ha of wetland with south-facing margins comprising of a mosaic of grassland, scrub, wet woodland and ephemeral pools;
- Wetland to be fed by three headwater streams;

¹ Atkins Landscape and Ecology Management Plan (doc no: HTR-ATK-ZZ-ZZ-RP-L-0002, (July 2022)

- The wetland will have variable water depths and will include a number of islands, and reedbed areas.

Mitigation/compensation context

The wetland will provide compensation for loss of wetland habitats due to the Scheme and will provide semi-natural freshwater habitat on the northern edge of the reservoir and include a mosaic of habitats such as pools with islands and variable water depths, reedbed, marshy grassland, wet woodland, and scrub.

An area of conifer plantation in the south of Havant Thicket woodland will be felled and replanted with alder, aspen, native black poplar and willow prior to the flooding of the area, to form new wet woodland.

The wetland retaining structure will retain water in the wetland when the main reservoir water levels are low, such as during lengthy operations or drought. Water within the wetland area will be maintained at 38.8m AOD regardless of main reservoir levels, unless the wetland is drained for maintenance or emergency reasons.

The parameters which informed the environmental assessment of the wetland retaining structure and were approved in the hybrid planning permission are presented below.

Element	Parameter	Level of Detail
Wetland retaining structure	A retained wetland extending for approximately 1.3km along the northern shoreline. 4no. retained wetland compartments, plus provision of an area for wet grassland habitat creation to the east of the retained woodland. Retention of wetland during drought levels in main reservoir. Minimum area of retained woodland provided - 10ha.	Outline (commitment to minimum area)

3. Description of Phase 2 Reserved Matters

The design of the wetlands for the Phase 2 Reserved Matters is based on the outline design work undertaken by Portsmouth Water to secure the hybrid planning permission. The overall design of the Phase 2 wetlands is consistent with the parameters approved in the hybrid planning permission. The Phase 2 wetlands design delivers each of the points identified as parameters in the Table above.

The following drawings have been prepared by Future Water for the Phase 2 Reserved Matters application:

- HTR-GHD-ZZ-RE-DR-Z-0002 - Proposed Reservoir Works Key Plan Phase 2;
- HTR-GHD-WC-ZZ-DR-L-0012 - Outline Wetlands Embankment Overall Design Strategy;



- HTR-COF-EM-RE-DR-GE-4004 – Planning Drawing Wetlands Retaining Embankment Proposed Site Layout;
- HTR-COF-EM-RE-DR-GE-4005 - Planning Drawing Wetlands Retaining Embankment Design Cross Sections;
- HTR-GHD-WC-ZZ-DR-L-0050 - Landscape and Ecology Proposals;
- HTR-GHD-WC-ZZ-DR-L-0051 - Wetlands Embankment Active Water Control Feature - Penstock Detail;
- HTR-GHD-WC-ZZ-DR-L-0052 - Wetland Spillway Detail - No Vehicle Access (Section & Plan);
- HTR-GHD-WC-ZZ-DR-L-0053 - Wetland Spillway Detail (Section and Plan);
- HTR-GHD-WC-ZZ-DR-L-0054 - Wetland Spillway Detail Compartment 3/4 (Section and Plan);
- HTR-GHD-WC-ZZ-DR-L-0055 - Wetland Spillway Detail Compartment 1/2 (Section and Plan);
- HTR-GHD-WC-ZZ-DR-L-0056 - Wetland Retaining Structure - Landscape General Arrangement Sheet 1 of 6;
- HTR-GHD-WC-ZZ-DR-L-0057 - Wetland Retaining Structure - Landscape General Arrangement Sheet 2 of 6;
- HTR-GHD-WC-ZZ-DR-L-0058 - Wetland Retaining Structure - Landscape General Arrangement Sheet 3 of 6;
- HTR-GHD-WC-ZZ-DR-L-0059 - Wetland Retaining Structure - Landscape General Arrangement Sheet 4 of 6;
- HTR-GHD-WC-ZZ-DR-L-0060 - Wetland Retaining Structure - Landscape General Arrangement Sheet 5 of 6;
- HTR-GHD-WC-ZZ-DR-L-0061 - Wetland Retaining Structure - Landscape General Arrangement Sheet 6 of 6;
- HTR-GHD-WC-ZZ-DR-S-0062 - Wetlands Active Water Control Penstock Chamber Details Compartment 4;
- HTR-GHD-WC-ZZ-DR-S-0063 - Wetlands Active Water Control Penstock Chamber Details Compartment 3;
- HTR-GHD-WC-ZZ-DR-S-0064 - Wetlands Active Water Control Penstock Chamber Details Compartment 2;
- HTR-GHD-WC-ZZ-DR-S-0065 - Wetlands Active Water Control Penstock Chamber Details Compartment 1;
- HTR-GHD-WC-ZZ-DR-L-0080 - Wetlands Islands and Ephemeral Features Cross-Sections Sheet 1 of 4;
- HTR-GHD-WC-ZZ-DR-L-0081 - Wetlands Islands and Ephemeral Features Cross-Sections Sheet 2 of 4;
- HTR-GHD-WC-ZZ-DR-L-0082 - Wetlands Islands and Ephemeral Features Cross-Sections Sheet 3 of 4;
- HTR-GHD-WC-ZZ-DR-L-0083 - Wetlands Islands and Ephemeral Features Cross-Sections Sheet 4 of 4.



The indicative design features of the wetlands is proposed to include the following:

- Specific landform, planting and fencing measures are proposed to reduce predation pressure on birds through excavations and placement of islands/ephemeral features from the shoreline;
- Islands aligned to viewpoints from bird hides, visitor centre and known key vistas within the wider context of the site. Viewing screens, landform with planting is proposed to provide adequate screening while allowing public to see into the wetland area. Bird hides have been located adjacent to access paths;
- Wet grassland planted within the shallows and ephemeral features;
- Shallow shoreline features provide habitat suitable for typically ephemeral populations of plant species adapted to the open shallow edges of freshwater lakes;
- Local native tree species within the woodland mix are selected that provide foraging habitat for bats and dormice and benefit birds and invertebrates by providing shelter and food sources;
- Within the wetland area and transition north, the scheme provides wood pasture (parkland) areas for more open habitat that would benefit invertebrates and provide different foraging opportunities for bats;
- The planting design also proposes to include new woodland edge habitat to benefit reptiles;
- The area of corsican pine plantation in the south of Havant Thicket woodland that has been felled is proposed be replanted with alder, aspen, native poplar and willow prior to the flooding of the area, to form new wet woodland. Scots pine to be retained where possible;
- Wetland to be fed by three headwater streams that also help to improve habitat connectivity between the new wetland and existing Havant Thicket woodland including watercourses and pond features;
- Species-rich grassland habitat would be managed to create suitable micro-habitats for Invertebrates, including varies sward densities, patches of bare substrates, promotion of larval food plants and scattered scrub;
- Increasing the foreshore variation in landform and seeding around the edges of the reservoir site alongside future grassland management and installation of hibernacula and log piles would look to maximise habitat value;
- Management of the new and retained grassland would be undertaken to provide a varied sward height that would maintain suitability for ground nesting birds such as skylark and meadow pipit and graded edges where at the interface with scrub and woodland to increase structural and species diversity;
- The landscape strategy has looked to retain willow scrub and tall herb habitat along the south-eastern boundary of Havant Thicket woodland. This has helped to reinforce the visual barrier between grassland on the reservoir side and footpaths Within Havant Thicket woodland.

A series of penstocks are included in the design for wetland water control and maintenance. Spillways would connect the wetlands to the main reservoir body, whilst the flows within the wetland would be managed by a series of box culverts from, and between each 'compartment'.

A 3-4m wide vehicle maintenance track would be constructed on the embankment between the wetland and the reservoir, using stone and gravel.

The design of the wetlands retaining structure accords with the parameters, principles and standards set out in the Development Specification approved by the respective hybrid planning permissions for the development.

4. Environmental appraisal of Phase 2 Reserved Matters

The detailed design of the Phase 2 Reserved Matters has been reviewed with respect to the topics presented in the published ES (Atkins, 2020).

The ES prepared in 2020 assessed the potential for significant effects arising from the Scheme with respect to: air quality, historic environment, biodiversity, ground conditions, landscape and visual, noise and vibration, traffic and transport, material resources and waste, water (flows, quality and groundwater) climate, climate change vulnerability, population and human health, cumulative effects and vulnerability to major accidents and disasters.

A qualitative review has been undertaken to consider the implications on the findings of the 2020 ES and the potential for any new, or materially different significant effects to arise from the Reserved Matters wetland designs prepared by Future Water. A summary of the environmental topic assessments reviewed is presented in Table 1.

A Construction Environmental Management Plan (CEMP) (doc no: HTR-RHD-P2-RE-PL-Z-0018) has been prepared, as required by planning condition 5, in support of the construction works, in order to manage the environmental effects of the Scheme identified within the 2020 ES, and to demonstrate compliance with relevant environmental legislation. The CEMP is supported by a number of topic specific management control plans and will ensure appropriate mitigation measures are implemented during the construction works. The CEMP is being submitted for approval through a separate application to discharge Condition 5 alongside this Reserved Matters application.

Table 1 - Summary of environmental topics reviewed for Phase 2 Reserved Matters

2020 Environmental Statement Topic	Environmental Appraisal Summary
Historic environment	The Reserved Matters wetland designs would not result in any material changes to the historic environment, as the footprint of the wetlands is within the design parameters approved as part of the hybrid planning permission. Archaeological works have already been carried out in 2023 as part of the enabling works for the Scheme. The design of the wetlands is consistent with the published assessment in the Historic Environment Chapter of the 2020 ES (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0108), which both acknowledged and allowed for a degree of flexibility during the detailed design development, and all relevant committed mitigation can continue to be applied as envisaged to control potential residual effects.



2020 Environmental Statement Topic	Environmental Appraisal Summary
	As such, no new, or materially different significant effects on the historic environment would arise. Consequently, there would no change to the significance of effects reported in the 2020 ES.
Ground conditions	The 2020 ES Ground Conditions Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0110) did not identify any significant adverse effects on ground conditions during construction with appropriate mitigation measures in place. The design of the wetlands is consistent with the granularity and flexibility of the published 2020 ES methodology. All relevant committed mitigation can continue to be applied in accordance with the Record of Environmental Actions and Commitments (REAC) presented in the Outline Environmental Management Plan (Atkins Doc No.: HTR-ATK-XX-XX-RP-Z-0069) which forms part of the 2020 ES to control potential residual effects to non-significant levels. A Materials Management Plan has been prepared to manage the site won materials and demonstrate that it is being appropriately used on site within the main reservoir works (i.e. construction of the embankment, associated drainage, access and for landscape/habitat enhancement works). As such, no change to the significance of effects are anticipated on ground conditions during construction from that described in the 2020 ES.
Air quality	The 2020 ES Air Quality Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0107) did not identify any significant adverse air quality effects during construction. The design of the wetlands is consistent with the assumptions made in the 2020 ES air quality assessment. All relevant committed mitigation can continue to be applied in accordance with the CEMP and the REAC to control potential residual effects to non-significant levels. A Dust Management Plan (doc no. HTR-FUW-ZZ-ZZ-PL-W-0517) has been prepared for the main reservoir works, as per the REAC requirement AQ1. As such, no change to the significance of effects are anticipated from air emissions and dust sources during construction from that described in the 2020 ES.
Noise and vibration	The 2020 ES Noise and Vibration Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0112) reported that noise and vibration from construction works for the Scheme would not result in adverse effects that would be significant during daytime hours. The Noise & Vibration Impact Assessment (HTR-RHD-P2-RE-EN-Z-0009) demonstrates that the predicted noise levels are not likely to be exceeded during construction. The Noise & Vibration Impact Assessment is being submitted for local planning authority approval through a separate application to discharge planning condition 10.



2020 Environmental Statement Topic	Environmental Appraisal Summary
	A Noise and Vibration Management Plan (NVMP) (doc no. HTR-RHD-P2-RE-PL-W-0017) has been prepared and sets out the mitigation measures adopted during construction. The Noise & Vibration Management Plan is being submitted for local planning authority approval through a separate application to discharge planning condition 9. All relevant committed mitigation can continue to be applied as envisaged to minimise residual effects. As such, there would be no change to the significance of effects reported in the 2020 ES.
Biodiversity	Existing habitat within the footprint of the wetlands has been cleared as part of enabling works during 2023. The ecological design of the wetlands provides a mosaic of habitats incorporating features such as grass swards, wet grass/rush/sedge/reedbed features, marginal shelf reedbeds, together with ephemeral ponds and wetland island features which also provide roosting and nesting sites for birds as required by the LEMP and the Biodiversity Mitigation and Compensation Strategy (BMCS). These measures provide compensation for the loss of wetland habitats due to the Scheme. Between construction in Q1 2025 and the reservoir being filled with water, the wetland area will be seeded with grass. The area will be mowed and kept short, prior to the reservoir being filled. All relevant committed mitigation can continue to be applied as envisaged in the 2020 ES. As required by the REAC, an Ecological Management Plan (doc no. HTR-RHD-ZZ-ZZ-PL-Z-0001) has been developed which sets out the appropriate protection and mitigation measures to be implemented during construction. As such, the Phase 2 Reserved Matters design accords with the BMCS, as outlined in the 2020 ES.
Landscape and visual	The Phase 2 Reserved Matters design accords with the outline management objectives for the wetlands in the Havant Thicket Reservoir Landscape and Ecology Management Plan (LEMP) (Atkins, 2022). Adherence to the LEMP and future maintenance of landscape planting is a commitment made in the 2020 ES to mitigate the landscape effects of the Scheme. The LEMP has been followed in the development of the design for the Phase 2 Reserved Matters wetlands and, as such, the design brought forward is consistent and remains valid with the 2020 ES.
Population and human health	The 2020 ES Population and Human Health Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0118) identified that impacts on human health could arise during construction from the temporary reduction in access to open space



2020 Environmental Statement Topic	Environmental Appraisal Summary
	which would be mitigated by maintaining safe access for the public, where possible. A Construction Traffic Management Plan (doc no. HTR-FUW-RZ-RE-HS-E-0506) has been prepared which sets out how traffic and site operations will be managed during the main construction works and how construction staff will travel to and from the site. The Construction Traffic Management Plan is being submitted for approval through a separate application to discharge Condition 12(b). The Noise and Vibration Management Plan (NVMP) (doc no. HTR-RHD-P2-RE-PL-W-0017) sets out the mitigation measures adopted during construction. The Noise & Vibration Management Plan is being submitted for approval through a separate application to discharge Condition 9. Appropriate dust mitigation measures would be implemented in accordance with the REAC requirement AQ1. All relevant committed mitigation can continue to be applied as envisaged to control potential residual effects to slight adverse levels. As such, there would no change to the significance of effects reported in the 2020 ES with respect to population and human health.
Traffic and transport	The 2020 ES Traffic and Transport Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0113) did not identify any significant adverse effects arising from traffic and transport during construction with mitigation measures in place. The construction of the wetlands is consistent with the assumptions made in the 2020 ES regarding the daily maximum of construction HGVs both arriving and departing. The pattern of internal site vehicle movements and overall numbers of offsite construction vehicles movements will be as per the approved Scheme. As such, there would be no change to the effects reported in the 2020 ES. All relevant committed mitigation can continue to be applied as envisaged to control potential residual effects to non-significant levels. As required by TT1 of the REAC, a Construction Traffic Management Plan (doc no. HTR-FUW-RZ-RE-HS-E-0506) has been prepared which sets out how traffic and site operations will be managed during construction and how workers will be travelling to and from site. The Construction Traffic Management Plan is being submitted for local planning authority approval through a separate application to discharge planning condition 12(b).
Material resources and waste	The construction of the wetlands is consistent with the assumptions made in the 2020 ES Material Resources and Waste Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0114) and provides the flexibility to use the materials for



2020 Environmental Statement Topic	Environmental Appraisal Summary
	construction of the wetlands structure from areas within the footprint of the main reservoir works. All relevant committed mitigation can continue to be applied as envisaged to control potential residual effects to non-significant levels. As required by the Outline Environmental Management Plan (Atkins Doc No.: HTR-ATK-XX-XX-RP-Z-0069) and REAC requirement MRW2, a Site Waste Management Plan (doc no. HTR-FUW-P2-RE-RM-W-0008) has been developed to manage waste produced during construction. There would be no change to the significance of effects reported in the 2020 ES, as excavated materials from the reservoir site and access road that are suitable for use would be reused on-site to construct the wetlands, thereby preventing the generation of excavation wastes that would otherwise need removal and management off-site.
Water	The creation of the wetland habitat and wetland retaining structures were identified as key benefits of the Scheme in the 2020 ES Water Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0115). Penstocks are included in the Reserved Matters wetland design for wetland water control and maintenance. Spillways will also connect the wetlands to the main reservoir body, whilst water flow within the wetland will be managed by a series of box culverts from and between each 'compartment'. All relevant committed mitigation can continue to be applied as envisaged to manage residual effects. As required by W1 of the REAC, a Water Quality Management Plan (doc no. HTR-FUW-P2-RE-RP-EN-0014) has been prepared and provides details of mitigation measures required for the quality of surface and groundwater during construction.
Climate	As reported in the 2020 ES Effect on Climate Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0116), materials for the wetlands would be sourced on-site as per the approved Scheme, to reduce greenhouse gas emissions associated with the production and transportation of materials. All relevant committed mitigation can continue to be applied as envisaged in the 2020 ES. As such, there would be no change to the significance of effects reported in the 2020 ES.
Vulnerability to climate change	The wetland detailed design would have the same vulnerability to climate change as reported in the 2020 ES Vulnerability to Climate Change Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0117). All relevant committed mitigation can continue to be applied as outlined in Table 3.1 of the OEMP (Atkins Doc No.: HTR-ATK-XX-XX-RP-Z-0069). As such, there would be no change to the significance of effects reported in the 2020 ES.



2020 Environmental Statement Topic	Environmental Appraisal Summary
Cumulative and In-Combination effects	There would be no change to the cumulative and in-combination effects reported in the 2020 ES Cumulative and In-Combination effects Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0119) arising from the construction of the wetlands. All relevant committed mitigation can continue to be applied as envisaged in the 2020 ES. As such, there would be no change to the significance of effects reported in the 2020 ES.
Vulnerability to major accidents and disasters	The detailed design for the wetlands would have a similar vulnerability to major accidents and disasters, as per the approved Scheme and is consistent with the assumptions and flexibility of the assessment presented in the 2020 ES Vulnerability to Major Accidents and Disasters Chapter (Atkins Doc No.: HTR-ATK-ZZ-ZZ-RP-Z-0120). All relevant committed mitigation can continue to be applied as envisaged in the 2020 ES. Consequently, no new, or materially different significant effects would arise and there would be no change to the significance of effects reported in the 2020 ES.

5. Conclusion

This report has considered whether the proposed detailed design for the wetlands is likely to give rise to any new or materially different significant effects to those identified in the 2020 ES.

The proposals for the wetlands falls within the assumptions and flexibility of the 2020 ES methodologies to accommodate the design development and evolution, such that all committed mitigation can continue to be effectively applied and is sufficient to control the potential impacts of the design and construction related activities.

This report concludes that the Phase 2 wetland design submitted for Reserved Matters approval does not give rise to any new or materially different effects to those reported in the 2020 ES.