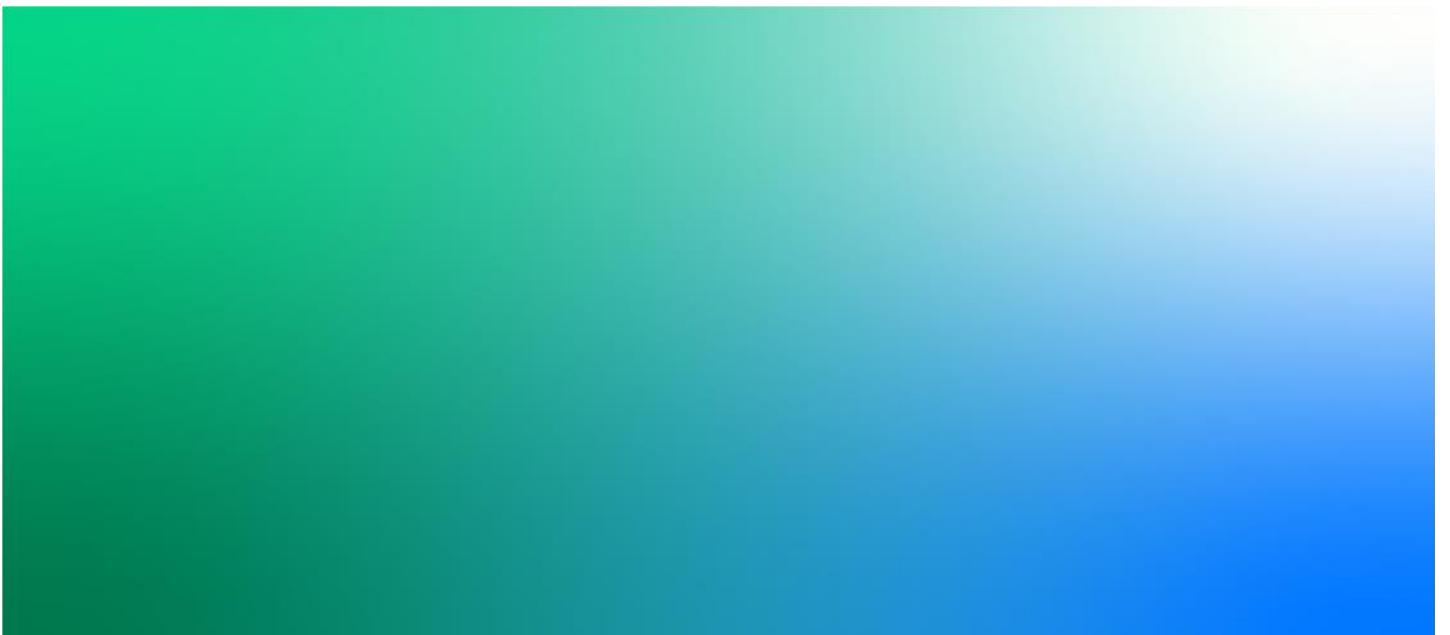




Salisbury River Park Master Plan
Habitats Regulations Assessment Stage 1 Screening

HRA Screening | 4
31 March 2021

Wiltshire Council
Salisbury River Park Master Plan



Salisbury River Park Master Plan

Project No: B2368200
 Document Title: Habitats Regulations Assessment Stage 1 Screening
 Document No.: HRA Screening
 Revision: 4
 Date: 31st March 2021
 Client Name: Wiltshire Council
 Client No: ENVIMSW002033
 Project Manager: Emma Allan
 Author: Alice Shoebridge

Jacobs U.K. Limited

Aperture @ Pynes Hill, Rydon Lane
 Exeter, EX2 5AZ
 United Kingdom
 T +44 (0)1392 269800

www.jacobs.com

© Copyright 2019 Jacobs U.K. Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright.

Limitation: This document has been prepared on behalf of, and for the exclusive use of Jacobs' client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this document by any third party.

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
1	4.11.20	DRAFT HRA Screening (Stage 1)	Alice Shoebridge	Corinna Morgan	Stuart Heddecott	PS Rayner
2	17.11.20	DRAFT HRA Screening (Stage 1)	Alice Shoebridge	Updated with Wiltshire Council's Major Project Team's comments and Ecology Team comments.		
3	17.03.21	HRA Screening updated after NE consultation	Alice Shoebridge	Stuart Heddecott	Stuart Heddecott	PS Rayner
4	31.03.21	HRA Screening updated after NE consultation	Alice Shoebridge	Corinna Morgan	Updated with Wiltshire Council's Major Project Team's comments	

Contents

Stage 1 Habitats Regulations Assessment 1

1. Permission, plan or project (PPP) details..... 2

2. Description of proposal..... 3

2.1 Phase 2 Area 2A Summerlock Bridge 4

2.2 Phase 2 Area 2B: Fisherton Bridge..... 5

2.3 Phase 3 Area 3A: Riverside path between Ashley Road and Central Car Park 6

2.4 Phase 4: Area 4A Land at Maltings Central Car Park (south) 8

2.5 Phase 5: Area 5A Rivers edge and riverside walk to rear of High Street 10

2.6 Phase 6: Area 6A NHS buildings and Tesco service yard and Area 6B The Maltings parade/Bishop’s Mill 11

3. Map showing PPP location and European sites 13

4. European sites requiring assessment 14

5. Qualifying species and habitats 15

6. Conservation Objectives..... 16

7. Risks (pressures) relevant to the type of PPP being assessed 17

8. HRA Stage 1 Screening..... 18

8.1 Phase 2: Area 2A Summerlock Bridge and Area 2B Fisherton Bridge 19

8.2 Phase 3: Area 3A Riverside footpath between Ashley Road and Central Car Park 20

8.3 Phase 4: Area 4A Land at Maltings Central Car Park (south) 24

8.4 Phase 5: Area 5A Rivers edge and riverside walk to rear of High Street 28

8.5 Phase 6: Area 6A and Area 6B 32

9. Alone assessment (further details) 34

10. In-combination assessment 37

11. Information and/or advice 39

12. Decision..... 40

Appendix A. Meeting Minutes..... 41

Stage 1 Habitats Regulations Assessment

This is a record of the screening for likely significant effects required by Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended), undertaken by Jacobs in respect of the permission, plan or project (PPP) detailed in Section 1, for the following relevant site:

- River Avon SAC (UK0013016).

1. Permission, plan or project (PPP) details

Type of PPP: Urban spatial Master Plan comprising mostly amenity space improvements but also including some in-channel and bankside environmental improvements (see Section 2).

National grid reference: SU 14065 30892 to SU 14145 29822

Site/project name or reference: Salisbury River Park Master Plan Phases 2-6

The study area, which is situated around central Salisbury extends from Fisherton Recreation Ground north of the city centre, through the Maltings and central car park area, to Queen Elizabeth Gardens south of the city centre. The study area is provided in Figure 1.1.

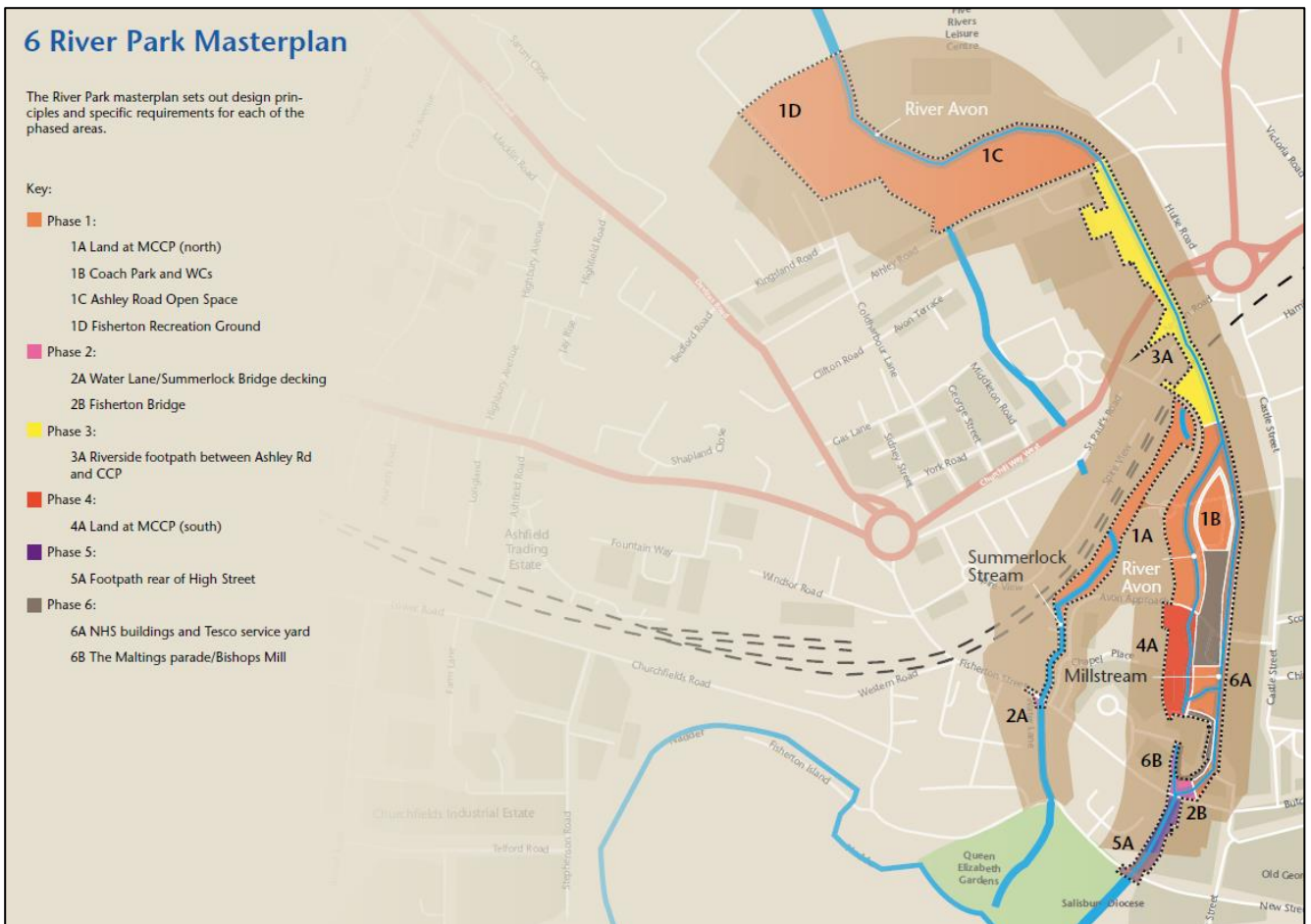


Figure 1.1: Study Area: The River Park Master Plan (Wiltshire Council, draft July 2020). Please note, the draft Master Plan was updated in November 2020 and released for public consultation that closed in January 2021. Post consultation, Phase 2A was updated to remove the decking area for new public/café seating and replaced with highways and landscape improvements. Further details are provided in Section 2.1. It must also be noted that the interface zone has been extended to include Queen Elizabeth Gardens.

2. Description of proposal

The Salisbury River Park Master Plan (SRPMP) has been developed by Wiltshire Council to present the council's vision for a river park; a green infrastructure link that connects and enhances the linear riverside route through the centre of Salisbury. The plan comprises a series of modifications to the River Avon, Summerlock Stream and Mill Stream in Salisbury to increase flood resilience whilst also improving wildlife and biodiversity as well as public amenities. These watercourses form part of the River Avon Special Area of Conservation (SAC) – see sections 3 and 4 for details of the European site.

There are six phases to the SRPMP, with each phase corresponding to a different reach of the River Avon SAC through Salisbury (Figure 1.1).

Phase 1 of the SRPMP (the River Corridor Improvement Scheme Phase 1) has undergone a separate HRA screening and Appropriate Assessment. This HRA Stage 1 focusses on Phases 2-6, which will be treated alone and in-combination with the other phases. Phases 2-6 of the SRPMP shall now be referred to as the 'Master Plan'.

This HRA Screening for SRPMP was published for public consultation alongside the draft Master Plan in November 2020.

2.1 Phase 2 Area 2A Summerlock Bridge

Post public consultation, the seating area across the stream has been removed from the Master Plan. Phase 2A consists of enhancing public realm on Summerlock Bridge by narrowing the area allocated as carriageway and creation of a new public space (Figure 2.1). The bridge structure will not change.



Figure 2.1: Phase 2A – Summerlock Bridge

2.2 Phase 2 Area 2B: Fisherton Bridge

Enhancing public realm on Fisherton Bridge by narrowing the area allocated as carriageway and creation of a new public space (Figure 2.2). The bridge structure will not change.

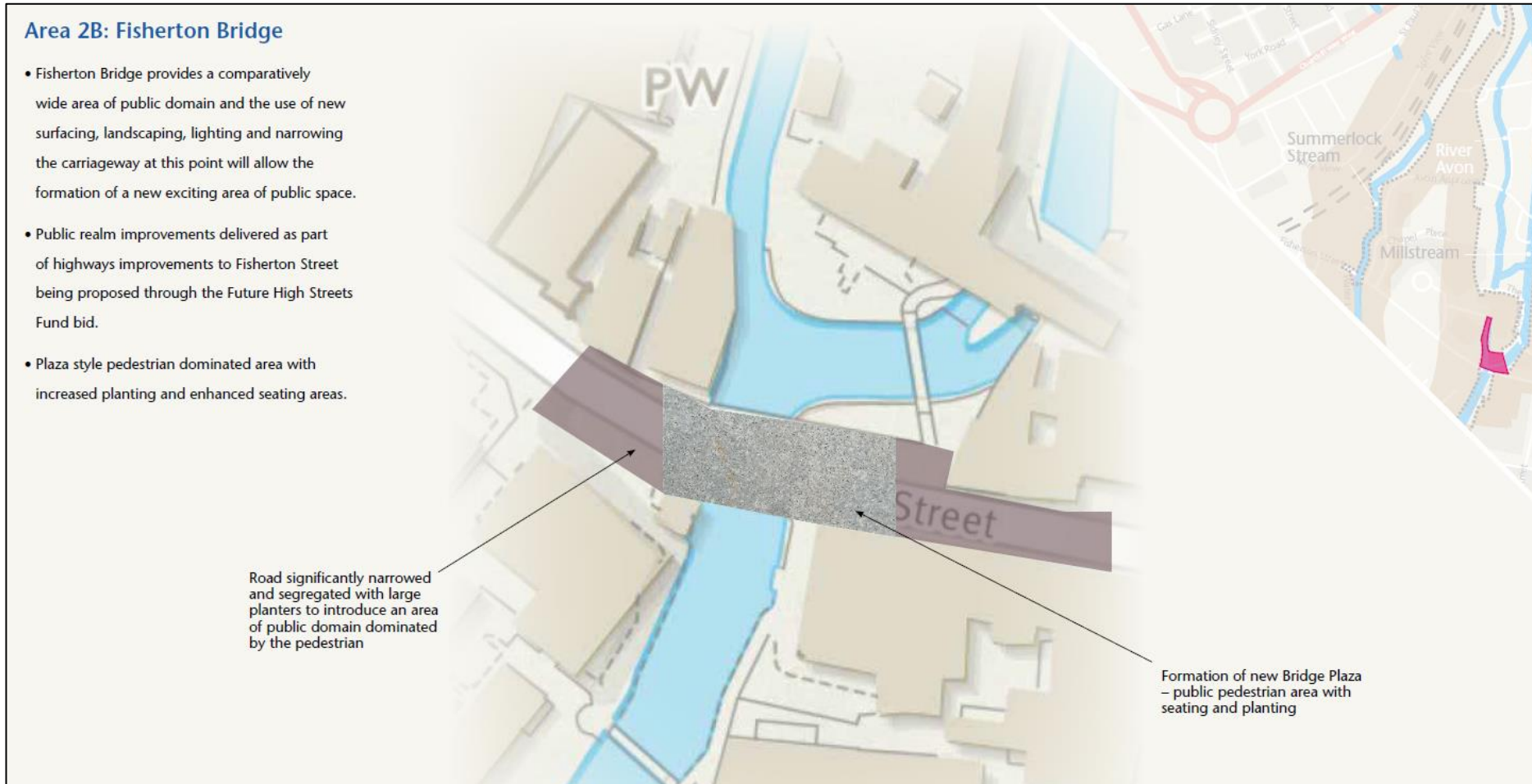


Figure 2.2: Phase 2B – Fisherton Bridge

2.3 Phase 3 Area 3A: Riverside path between Ashley Road and Central Car Park

Naturalisation of the river corridor by improving wetland habitat in marginal areas and creation of a two-stage channel is included in this Phase. Planting in riparian areas with mature and native trees and species-rich grassland, introduction of a new cycle route, potential widening of the pedestrian footpath and public realm improvements including increased planting and seating areas. Full details are provided in Figure 2.3.

The Master Plan was updated prior to consultation in November 2020 and the previously proposed pavement lamps in the underpass, floating gardens and flood wall have been removed from the Master Plan.

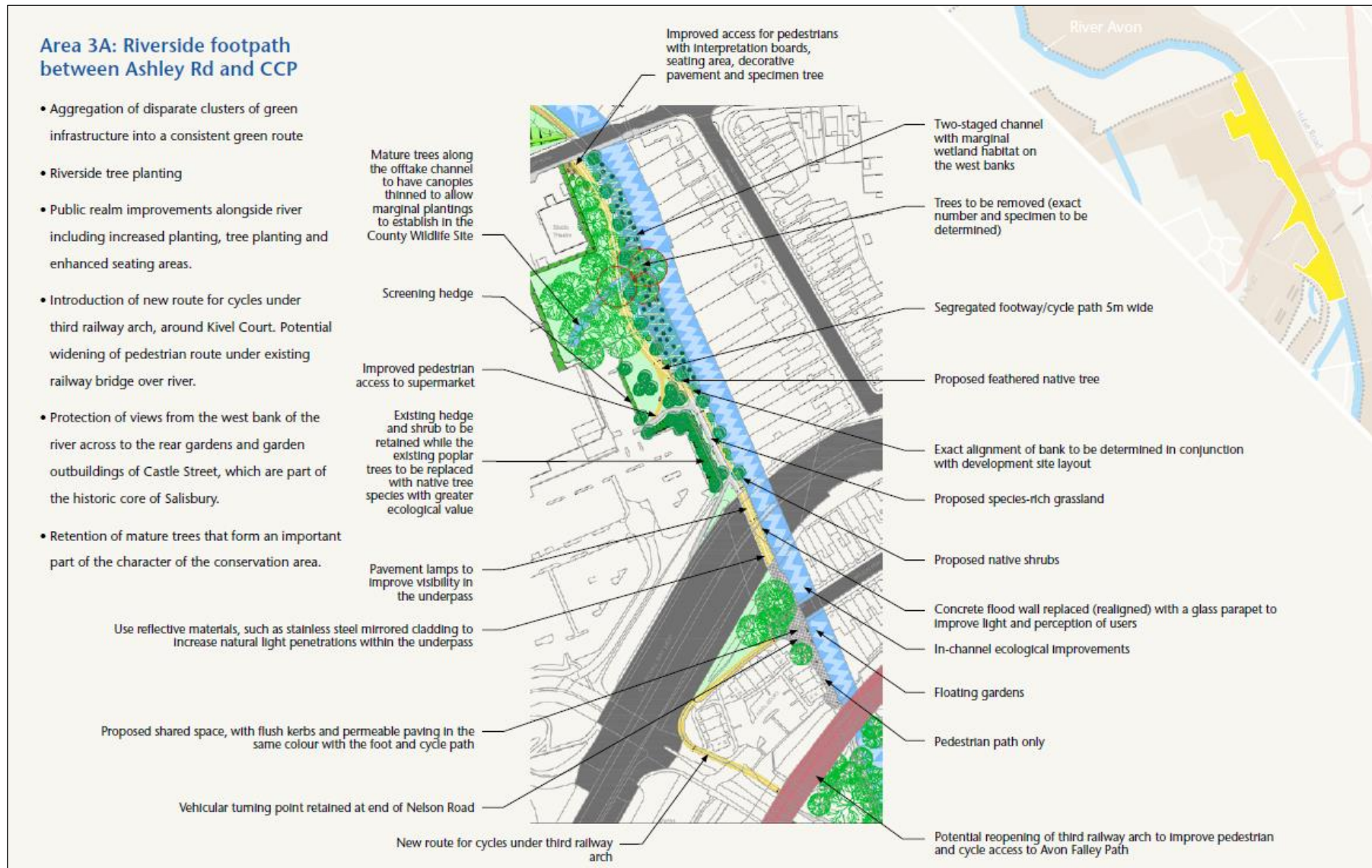


Figure 2.3: Proposed design for Phase 3, Area 3A

2.4 Phase 4: Area 4A Land at Maltings Central Car Park (south)

A number of improvements to the river corridor to improve biodiversity and modifications to adjacent land to increase public realm (Figure 2.4).

The Master Plan was updated prior to public consultation in November 2020 and the proposed beach has been removed from the proposals and replaced with improved informal seating area, engaging with the river. This area is within the riparian zone of the river corridor and engagement is through a visual context; it does not create access to the river.

Area 4A: Land at MCCP (south)

Phase depending on the delivery of the redevelopment of Sainsburys block, as per the Maltings and CCP masterplan. Phase to potentially include:

- Continuation of the green corridor that is part of Phase 1. Where possible, a 40m wide corridor is to be created with a mixture of public realm and wildlife areas.

- In channel and bankside improvements to enhance biodiversity.
- Opening up some or all of the culvert that takes the River Avon under the existing shopping arcade, where opportunities arise in agreement with interested parties.
- Major new area of public domain to host the evening economy

- Outdoors performance space
 - Public art
 - Informal public seating (may be stepped banks)
 - Food kiosks
- While existing buildings remain, short term public realm enhancements to the riverside frontage. EA interim proposals TBC.

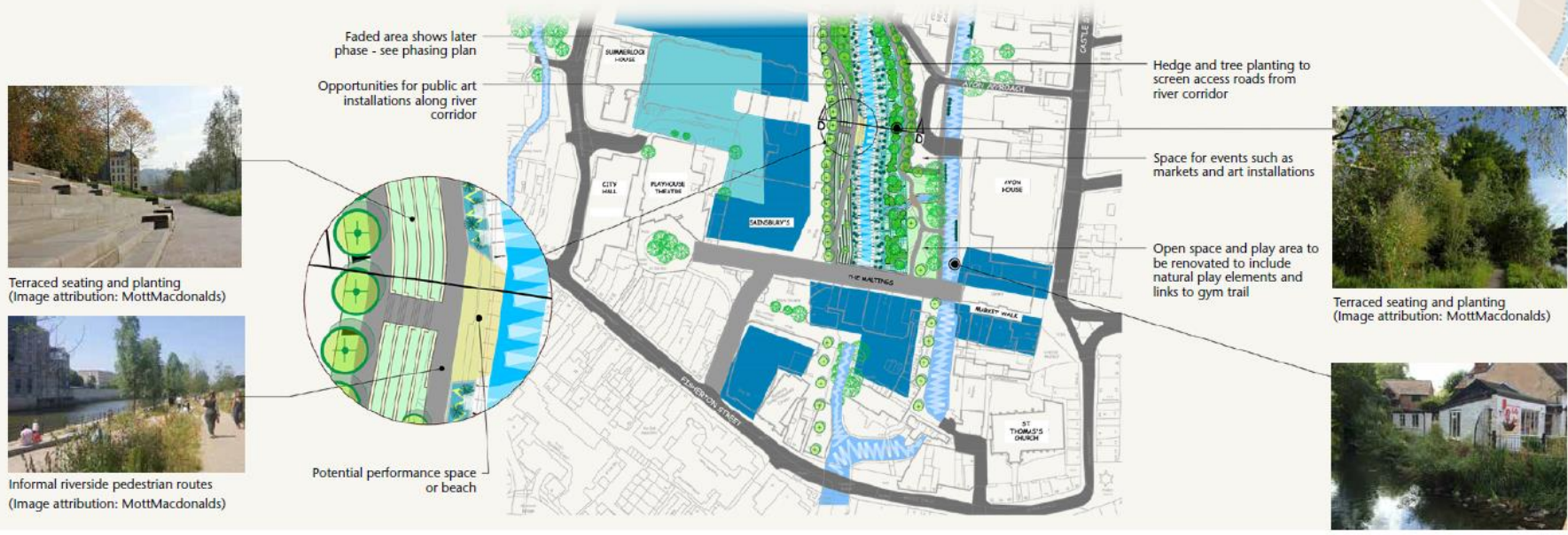
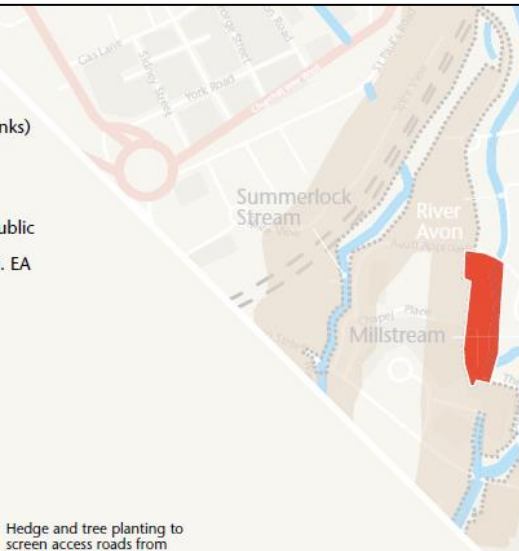


Figure 2.4: Phase 4A – Land at Maltings Central Car Park (south)

2.5 Phase 5: Area 5A Rivers edge and riverside walk to rear of High Street

Enlivening of the urban realm through improvements to public realm and enhancements of the River Avon south of Bridge Street (Figure 2.5).

The Master Plan was updated prior to consultation in November 2020 and the amphitheatre seating and steps leading to the bridge have been removed from the proposals.

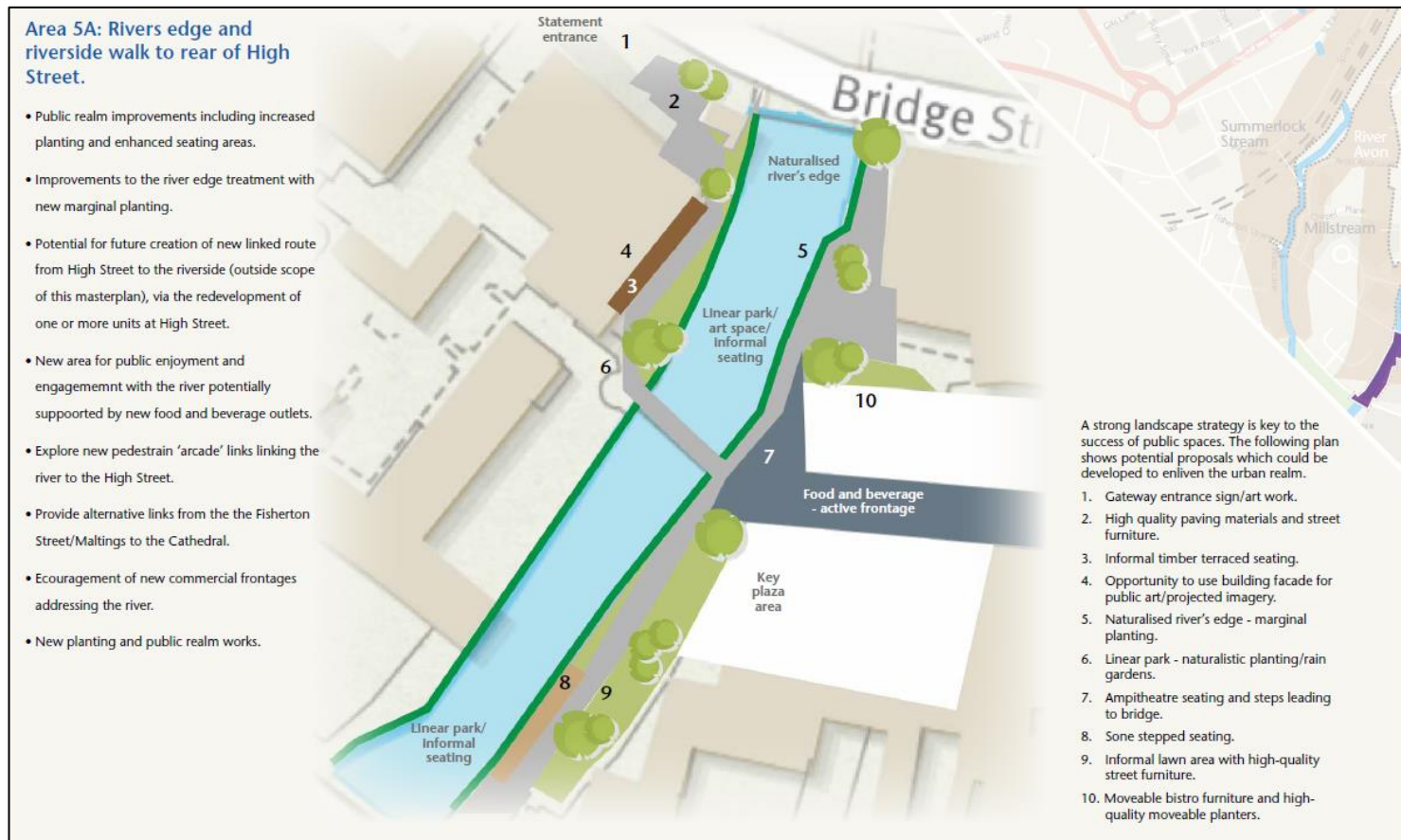


Figure 2.5: Area 5A Rivers edge and riverside walk to rear of High Street

2.6 Phase 6: Area 6A NHS buildings and Tesco service yard and Area 6B The Maltings parade/Bishop's Mill

Public realm improvements to include additional riparian planting (Figure 2.6).

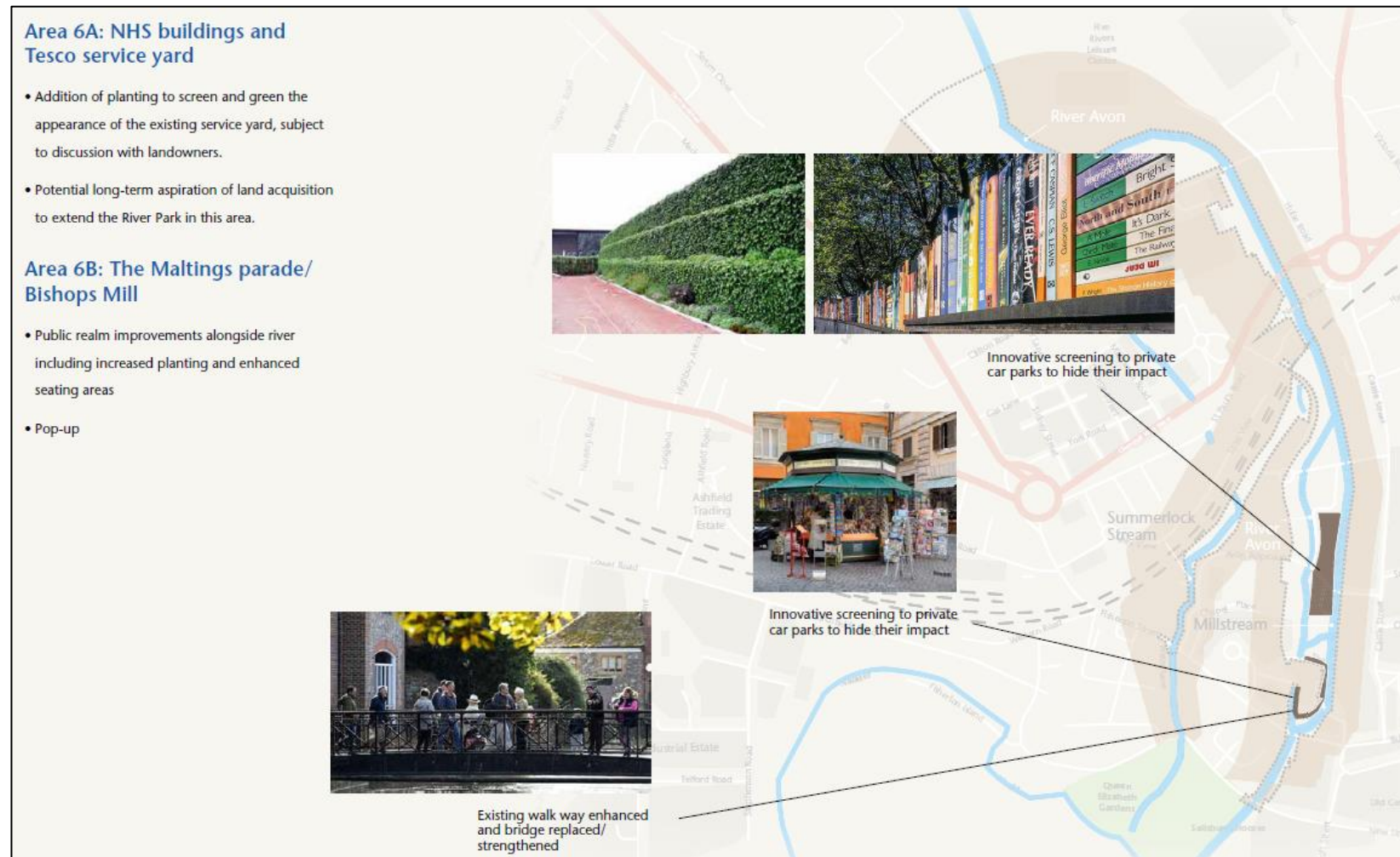


Figure 2.6: Phase 6 – NHS buildings and Tesco service yard and The Maltings parade/Bishops Mill

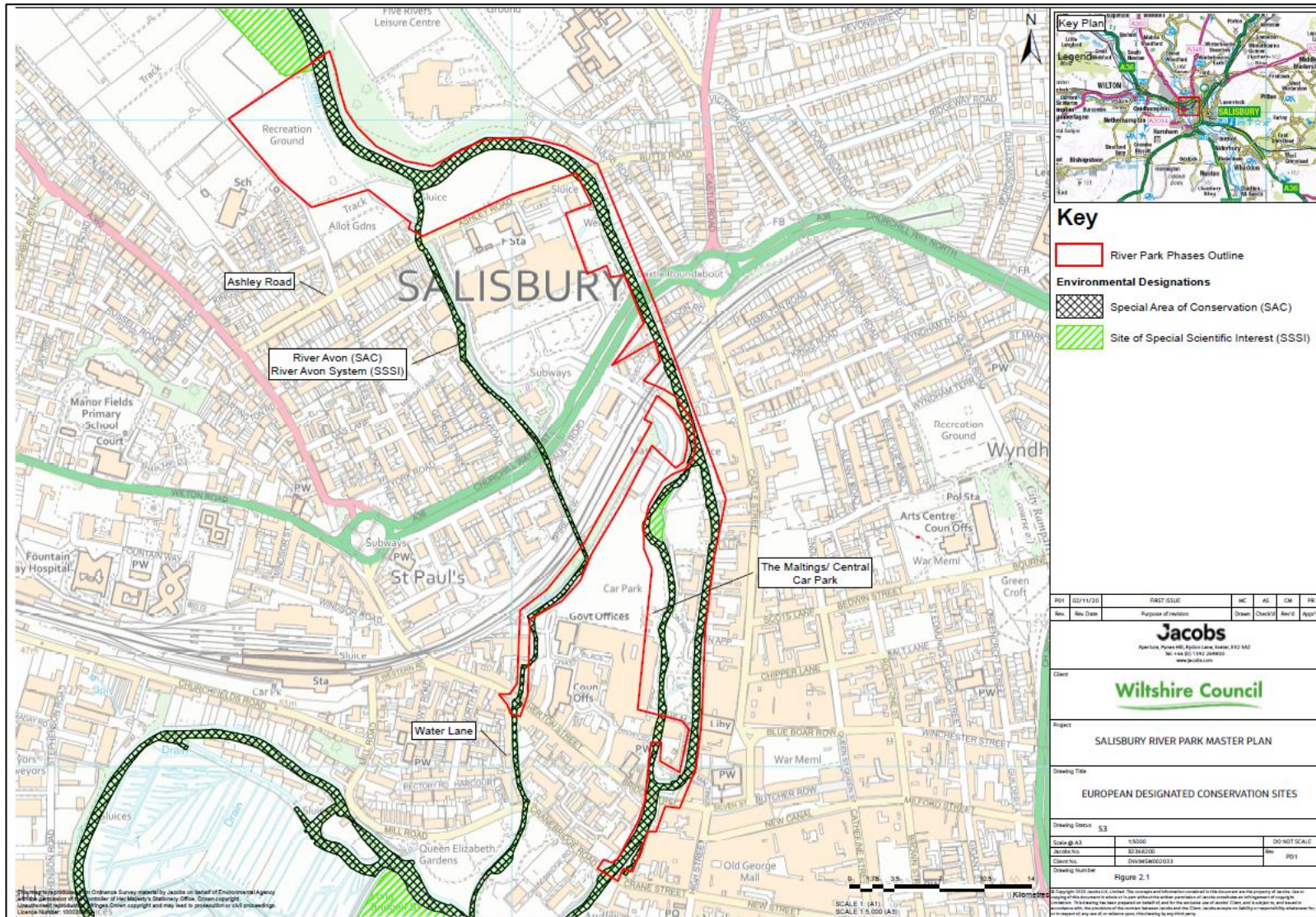
Summary of Master Plan Phases

A summary of the proposed developments in the Master Plan is provided in Table 2.1, alongside potential pathways to effect on the River Avon SAC qualifying features.

Table 2.1: Summary of proposed developments of the Master Plan (Phases 2-6).

Type of Proposed Development	Relevant Master Plan Phase(s)	Potential Pathway to Effects
Over-river platform or bridge	Phase 6B (bridge)	Yes
Landscaping in riparian areas of river corridor enhancing public areas	Phase 4A (informal seating area engaging with river) Phase 5A (stone-stepped seating)	Yes
River channel improvements (including deculverting)	Phase 3A Phase 4A	Yes
River margin naturalisation & river bank landscape planting	Phase 3A Phase 4A Phase 5A	Yes
Reconfiguration and/or changes to pedestrian footpaths (including associated lighting)	Phase 3A Phase 4A Phase 5A	<p>Yes – through increased recreational use and changes in lighting.</p> <p>Phase 3A: connectivity between the river corridor and riparian zone is already disconnected by the current footpath.</p> <p>Phase 4A: the current riparian zone is heavily modified and consists of the Maltings carpark. Therefore connectivity under baseline conditions does not exist.</p> <p>Phase 5A: The River Avon is currently disconnected from the riparian zone due to the heavily modified nature of the vertical banks.</p> <p>The River Avon is a groundwater fed river, but since any new hard landscaped areas will have off-the-edge drainage there will be no change in infiltration of rainfall into the shallow groundwater.</p>
New / encouraged commercial activity (retail (including pop-up), entertainment, food) not impinging on river bank	Phase 4A Phase 5A Phase 6A and 6B	<p>Yes</p> <p>Indirect (encouraging people to riverside)</p>

3. Map showing PPP location and European sites



4. European sites requiring assessment

The European sites requiring assessment is provided in Table 4.1. This is based on screening criteria the Environment Agency consider appropriate to identify significant risk.

Table 4.1: Qualifying features of the River Avon SAC. ^ Protected area under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 * Priority natural habitat/priority species.

European site	Complete list of qualifying features
River Avon SAC (UK0013016) ^	Atlantic salmon* Annex II species (primary reason for selection)
	Brook lamprey Annex II species (primary reason for selection)
	Bullhead Annex II species (primary reason for selection)
	Desmoulin's whorl snail* Annex II species (primary reason for selection)
	Sea lamprey* Annex II species (primary reason for selection)
	Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation Annex I habitat (primary reason for selection)

Following the Court of Justice of the European Union's (CJEU) decision in 'Holohan and others v An Bord Pleanála' (C-461/17), species and habitats designated under the Habitats Directive that are potentially present on the site but are not listed as Qualifying Interests within a designated site, must be identified and implications from the proposed development assessed – insofar as those implications are liable to affect the conservation objectives of the site.

Whilst not a named qualifying feature of the River Avon SAC, water vole (*Arvicola amphibius*) are a distinctive/typical species supported by the River Avon SAC habitat. Water voles are also fully protected under Schedule 5, Section 9, of the Wildlife and Countryside Act 1981 (as amended). Water vole is also listed on Section 41 of the NERC Act 2006. This places a duty on all public bodies to have regard to the conservation of biodiversity in England, when carrying out their normal functions (the biodiversity duty). This means that water vole must be treated as a material consideration within the planning process. Water voles have been identified in the area from surveys carried out during 2020. Future schemes arising from the Master Plan will be subject to Environmental Impact Assessment, which will consider this species further.

Another species which requires consideration is the Eurasian otter (*Lutra lutra*), a semiaquatic mammal of inland and coastal waterways including streams, rivers and lakes. Surveys carried out in 2020 indicate the presence of otter within the project area. The otter is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) making it a European protected species. Otter is also listed on Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC). Future schemes arising from the Master Plan will be subject to Environmental Impact Assessment, which will consider this species further.

This HRA has considered the distinctive species described above and concluded that the scale of changes in water vole and otter populations which could reasonably be brought about by the Master Plan is unlikely to impact the SAC features of the River Avon. As such, water vole and otter have not been considered further in this HRA.

5. Qualifying species and habitats

Atlantic salmon

The River Avon represents a south coast chalk river supporting Atlantic salmon (*Salmo salar*) populations. Atlantic salmon are migratory species, moving from the marine environment upstream into freshwater environments to spawn, utilising clean gravels. Environment Agency records¹ indicate the presence of Atlantic salmon throughout the main stem of the River Avon and its tributaries, upstream and downstream of the study area – an indicator of the importance of Atlantic salmon habitats and migratory routes in the River Avon.

Brook lamprey

Brook lamprey (*Lampreta planeri*) are a non-migratory fish species that live in freshwater environments. The brook lamprey requires clean gravel beds for spawning at specific times of the year and slow flowing areas with sandy/silt substrate that act as ammocoete nursery areas during juvenile development. Brook lamprey have been recorded by the Environment Agency² in the River Avon, including sites within the study area boundary (Summerlock Stream), indicating the presence of suitable habitat to support this species.

Bullhead

Bullhead (*Cottus gobio*) are non-migratory bottom-dwelling freshwater species. They predominantly occur in stony rivers and streams with moderate flows and oxygen rich waters and have a high fidelity to their habitat patches. Observations from the River Avon during a site walkover by Jacob's ecologists in September 2019 indicate a number of areas suitable for bullhead. Environment Agency records¹ indicate bullhead are within the River Avon and its tributaries and this species would be expected to be present within the study area.

An electric-fishing survey was scheduled to be carried out within the study area in 2020 by the Environment Agency, which would provide a more detailed and current assessment of the fish communities in the River Avon SAC through Salisbury. However, due to Coronavirus and associated restrictions, these surveys were unable to be carried out.

Desmoulin's whorl snail

Walkover surveys by Jacob's ecologists in September 2019 through sections of the study area identified sub-optimal habitat for Desmoulin's whorl snail (*Vertigo moulinsiana*), which prefer marginal wetland areas of chalk stream habitat. Natural England has confirmed² that Desmoulin's whorl snail is no longer present in this part of the Avon catchment. For these reasons, Desmoulin's whorl snail has been *screened out of this assessment*. However, as part of the integrated design of the Master Plan, in Phases 1 and 4a of the Master Plan, opportunities will be sought to create suitable habitat for the re-establishment of this species, wherever possible.

Sea lamprey

Sea lamprey (*Petromyzon marinus*) have similar spawning habitat requirements to brook lamprey and salmonids; spawning areas must contain suitable refuges and clean gravels and be within close proximity to sandy/silt substrates for larvae development. Ammocoetes of sea lamprey spend several years in these silt beds before metamorphosing and migrating downstream to the marine environment. Fisheries surveys have been undertaken by the Environment Agency for over 20 years at many sites within the River Avon and its tributaries¹; only two individuals have been identified from the catchment in 2005 and 2011, near Christchurch, approximately 40km downstream of the plan area. As such, sea lamprey have been *screened out of the assessment*.

Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation

This qualifying habitat is characterised by the abundance of water crowfoots (*Ranunculus* species) and stonewort, which are important aquatic plant communities within the River Avon SAC. They provide shelter and food for macro-invertebrates and fish, promote silt deposition and create flow diversity within the channel. A survey undertaken to assess the water crowfoot communities for the Master Plan was carried out by Jacobs in August 2020. Water crowfoot communities were found to be prevalent throughout the study area, in the Mill Stream, Summerlock Stream and River Avon.

¹ Environment Agency Ecology and Fish Data Explorer - <https://environment.data.gov.uk/ecology-fish/>

² through telephone communications between the biodiversity officer at the Environment Agency and Natural England on 16/1/20.

6. Conservation Objectives

The screening for likely significant effects (and appropriate assessment, if required) will consider the implications of the Master Plan in view of the site's conservation objectives.

River Avon SAC (UK0013016) Conservation Objectives

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

Taken from:

<http://publications.naturalengland.org.uk/publication/6048472272732160?category=6528471664689152>.

Publication date 27th November 2018 (version 3).

Further information is provided in the River Avon SAC Conservation Objectives Supplementary Advice. This can be found from the Natural England publication 'European Site Conservation Objectives for River Avon SAC (UK0013016)

(<http://publications.naturalengland.org.uk/publication/6048472272732160?category=6528471664689152>)

7. Risks (pressures) relevant to the type of PPP being assessed

The following list of risks (pressures) are those relevant to the qualifying features of the River Avon SAC, taken from the Environment Agency database. Where additional risks have been added, this is highlighted in the text provided below and relates to 'habitat fragmentation/modification', 'increased recreation', 'natural function' and 'invasive species' only.

Acidification – No effect pathway; the Master Plan will not result in long-term changes to the climate. Therefore, this has been screened out of this assessment.

Change in salinity regime – No effect pathway; the Master Plan is located outside of any tidal influence and will therefore not introduce saline water into the area. This has been screened out of this assessment.

Changes in thermal regime – No effect pathway as there is no standing water body within the study area and the Master plan will maintain flows within the existing channels. Therefore, this has been screened out of this assessment.

Entrapment/impingement – No effect pathway from the Master Plan that have the potential to trap or impinge on fish. Therefore, this has been screened out of this assessment.

Habitat loss – Potential effect pathway and consequently screened into this assessment.

Habitat fragmentation/modification – This has been added to the list of risk (pressures) that the Master Plan may have on qualifying features and includes physical modifications including barriers to fish movement, noise and vibrations. Potential effect pathway and consequently screened into this assessment.

Increased recreation – This has been added to the list of risk (pressures) that the Master Plan may have on qualifying features (based on advice received from Natural England) and includes changes that may affect the qualifying features through increased recreational use of the River Avon.

Invasive species – This has been added to the list of risk (pressures) that the Master Plan may have on qualifying features. Potential effect pathway and consequently screened into this assessment.

Natural function – This has been added to the list of risk (pressures) that the Master Plan may have on qualifying features and includes changes that may affect the natural functioning of the qualifying features.

Nutrient enrichment – No effect pathway; the Master Plan will not result in any land use changes nor change of use of buildings that could increase nutrient enrichment and will not affect waste-water or abstractions. It is not considered that the Master Plan will compromise delivery of the Avon SAC Phosphate Neutral Development interim delivery plan but does offer some minor contributions to reducing phosphate through its small-scale river restoration proposals. Therefore, this has been screened out of this assessment.

Physical damage – This includes vibration impacts (harm to fish). Potential effect pathway and consequently screened into this assessment.

Siltation – Potential effect pathway and consequently screened into this assessment.

Smothering – Potential effect pathway and consequently screened into this assessment.

Turbidity – Potential effect pathway and consequently screened into this assessment.

Toxic contamination – Potential effect pathway and consequently screened into this assessment.

8. HRA Stage 1 Screening

The HRA screening assessment for the relevant European site is provided in below.

Following the Court of Justice of the European Union's decision in 'People Over Wind and Sweetman v Coillte Teoranta' (C-323/17), Likely Significant Effect (LSE) cannot be discounted if the screening relies on control measures. This screening assessment therefore does not take into account avoidance and/or mitigation measures.

8.1 Phase 2: Area 2A Summerlock Bridge and Area 2B Fisherton Bridge

The Phase 2A and 2B modifications to Summerlock Bridge and Fisherton Bridge are within the current footprint of the bridge and consist of activities to narrow the carriageway and assign a greater proportion of space to increase the pedestrian area. It is considered there are no pathways to impact on the qualifying features of the River Avon SAC (please see Table 2.1).

8.2 Phase 3: Area 3A Riverside footpath between Ashley Road and Central Car Park

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Habitat loss from in-channel works	<ul style="list-style-type: none"> Water crowfoot habitat is present in this reach of the River Avon. Any in-channel works have the potential to impact on the local habitats, although this would be highly localised and it is considered to be a temporary effect. Although the proposed in-channel works are to improve ecology of the river and reduce flood risk (which is being addressed through the proposal of a two-staged channel with marginal and wetland habitats), there remains a pathway to effect during the construction phase. <p>During operation, there is no pathway to negative effect but there will be positive LSE.</p> <p>Potential of LSE during construction.</p>	Yes
	Habitat fragmentation caused by works to channel, bank and riparian areas.	<ul style="list-style-type: none"> The continuity of habitat in the study reach may be affected by changes in channel form, water levels, flows and substrate during construction. Any habitat fragmentation may affect the structure, function and quality of the habitat and its ability to support the site's distinctive species (e.g. fish, invertebrate assemblages, otter and water vole). In-channel improvements may reduce existing fragmentation. <p>Potential for negative LSE during construction and positive LSE during operation.</p>	Yes
	Increased recreational use of area through potential widening of paths for pedestrian and cycle use, enhanced seating areas and lighting.	<ul style="list-style-type: none"> Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. Any changes to existing lighting and/or new lighting may encourage a greater footfall to the area after dusk, with a potential pathway to effect as described above. It is considered artificial light has no direct effect on water crowfoot habitat, but may impact species which utilise the habitat. Otters and water voles, distinctive species of the SAC, present in the area may be impacted by changes to existing artificial lighting throughout Salisbury. <p>Potential for LSE during operation</p>	Yes
	Invasive species from plant machinery	<ul style="list-style-type: none"> Invasive plant species have the potential to alter the hydromorphological condition of watercourses and thus impact on their distinctive plant communities (including <i>Ranunculus</i> spp.) through competition for light, space and habitat resource. Pathway to effect is from any in-channel activities. <p>Potential for LSE during construction.</p>	Yes
	Changes to natural function resulting from modifications to in-channel and riparian habitat	<ul style="list-style-type: none"> During operation, there is no pathway to effect for loss of natural functioning within the River Avon SAC. At present, the river is disconnected from the riparian zone by the footpath. It is therefore considered any widening of the footpath will not have significant effects beyond the current condition of lateral connectivity of the river and its riparian zone. 	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	(including potential footpath widening in riparian area).	<ul style="list-style-type: none"> ▪ Riparian inputs and connectivity to the watercourse will be improved through additional planting of native trees and shrubs, species-rich grassland. ▪ Marginal enhancements have the potential to improve marginal/riparian vegetation and lateral connectivity of the River Avon. ▪ This phase of the Master Plan may result in temporary changes to the natural functioning of the watercourses and their hydromorphology during the construction phase. Any in-channel works/plant machinery in-channel has the potential to impact the natural functioning of the River Avon SAC; water crowfoot communities play an important role in the functioning of the river system, affecting sedimentation features, flow types as well as habitat for other freshwater species (macro-invertebrates, water voles). Although localised and temporary, there remains a pathway to effect. ▪ During operation, it is considered there will be no pathway to impact of design elements within this phase that would significantly impact the <i>Ranunculus</i> communities of the SAC. ▪ Bank and marginal enhancements have the potential to increase the accessibility of wildlife to the river corridor. This has the potential to increase the risk of cats and foxes accessing the marginal areas and affect water vole. However it is considered that the Master Plan will promote lateral and longitudinal connectivity for water vole and improve their environment within the River Avon corridor, thereby reducing overall impact. <p>Potential for negative LSE during construction and positive LSE during operation</p>	
	Physical damage from construction plant	<ul style="list-style-type: none"> ▪ Although bank naturalisation and marginal planting are to be undertaken from the bank, the potential for limited in-channel construction works from the realignment of the flood wall have the potential for physical damage of water crowfoot communities, through any in-channel machinery and mechanical removal. <p>Potential for LSE during construction</p>	Yes
	Siltation/smothering/turbidity from any in-channel and riparian works	<ul style="list-style-type: none"> ▪ Sources of increased siltation and turbidity include any riparian works (run-off) and changes to channel beds, banks and flows. These impacts will be temporary and localised. However, a (low) risk remains that any increase in suspended sediment has the potential to affect light penetration and alter bed substrate during construction. ▪ There will be no changes to turbidity and siltation during operation of this phase of the Master Plan. <p>Potential for LSE during construction.</p>	Yes
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ The distinctive plant communities (including <i>Ranunculus</i> species) are susceptible to poor water quality and pollution. ▪ Toxic pollutants such as oil, fuel and hydraulic fluid could accidentally be released into the watercourse during construction when working in riparian and in-channel areas. ▪ There is no pathway to effect from toxic contamination during operation. 	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Atlantic salmon Brook lamprey Bullhead	Habitat loss from in-channel works	<p>Potential for LSE during construction.</p> <ul style="list-style-type: none"> ▪ The habitat in this reach is considered sub-optimal for Atlantic salmon and bullhead; the channel lacks any riffle-run sequences, being characterised by a typical slow glide habitat and a distinct lack of clean coarse substrates for spawning. Deep silt beds were also absent indicating sub-optimal habitat for brook lamprey. The in-channel improvements will help to provide better marginal habitat conditions for fish. ▪ Due to the urban nature of the reach and sub-optimal habitat for qualifying fish species, it is considered there would be no loss of distinctive habitat that supports these. Additionally, as fish are mobile and will move away from areas of temporary disturbance they will not be impacted by any temporary habitat loss resulting from construction. <p>No LSE during construction, positive LSE during operation</p>	No
	Habitat fragmentation caused by works to channel	<ul style="list-style-type: none"> ▪ Although temporary, construction plant and works may cause a barrier to Atlantic salmon and brook lamprey movement in the watercourse and could potentially result in population fragmentation. Bullhead are a non-migratory fish species, residing in freshwater habitats for their entire life-cycle. Any barrier to their movement during construction is not considered to result in any likely significant impact on the species. ▪ Channel connectivity will be maintained during operation. <p>Potential LSE on Atlantic salmon and brook lamprey during construction.</p>	Yes
	Increased recreational use of area through potential widening of paths for pedestrian and cycle use, enhanced seating areas and lighting.	<ul style="list-style-type: none"> ▪ Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. ▪ Any changes to existing lighting and/or new lighting has the potential to affect migratory fish species (Atlantic salmon) . <p>Potential for LSE during operation</p>	Yes
	Invasive species through in-channel plant and equipment	<ul style="list-style-type: none"> ▪ Invasive species may be introduced to the River Avon SAC through construction plant and works equipment in-channel. Invasive species such as signal crayfish have the potential to impact the qualifying fish populations through predation on eggs and juveniles, displacement of juveniles from shelter, modification of habitats and competition for food. <p>Potential for LSE during construction.</p>	Yes
	Changes to natural function resulting from modifications to in-channel and riparian habitat.	<ul style="list-style-type: none"> ▪ The physical changes associated with the in-channel habitat enhancements are considered to have temporary localised effects on the current condition of the river corridor during the construction phase through in-channel activities. These temporary changes include changes to habitat mosaics of the river, coarse sediment supply and the flow regime of the watercourses. These impacts are considered to occur during the construction phases of the phase. ▪ During operation the in-channel enhancements should promote a more natural function through this reach. <p>Potential for negative LSE during construction and positive LSE during operation.</p>	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	Physical damage from construction plant in-channel	<ul style="list-style-type: none"> ▪ Atlantic salmon and bullhead are highly mobile species and sensitive to disturbance, therefore are able to move away from areas of vibration. However, bullhead have a high fidelity to their habitat and in-channel constructional works, although temporary and limited, have the potential to cause harm to individuals unwilling to leave preferential habitats. ▪ Brook lamprey have specific habitat requirements during their life-cycle. The specificity for silt beds during their larval developmental stages inhibits their movement within the aquatic environment to areas of other habitat, such as fast flowing, clean gravels. There is the potential for physical damage to juvenile brook lamprey during construction. ▪ In-stream works in the watercourses will cause vibrations within the aquatic environment, which can harm fish or impact on their behaviour.. Any impacts would be localised and temporary, during construction only. ▪ There would be no pathway to effect for physical damage to the qualifying fish species during operation. <p>Potential for LSE during construction.</p>	Yes
	Siltation/smothering/turbidity from any in-channel and riparian works	<ul style="list-style-type: none"> ▪ A temporary increase in suspended sediments and high turbidity in the SAC during construction of the phase (from changes to marginal habitat where increased planting is proposed and the modifications of the flood wall) have the potential to negatively affect Atlantic salmon and bullhead by reducing their ability to feed. Brook lamprey do not feed as adults so turbidity will not impact their feeding ability. Brook lamprey utilise silt dominated habitats until spawning where clean stones and gravels are sought. ▪ Increased sediment deposition in the watercourses, generated from in-channel works or riparian run off, has the potential to smother clean gravels required for spawning habitat and egg/larval survival, block gills and disrupt respiratory function, and reduce the availability of prey species for all qualifying fish species. ▪ Any deposition of sediments from construction may form discrete units that could be utilised by juvenile lamprey in the future. ▪ There is no pathway to effect from turbidity and siltation during operation for the qualifying fish species. <p>Potential for LSE on Atlantic Salmon and bullhead from turbidity and on all qualifying species from siltation during construction.</p>	Yes
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ Sources of toxic pollutants include substances such as oil, fuel and hydraulic fluid from construction plant. The accidental release of pollutants during construction could impact fish populations directly or indirectly. ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction.</p>	Yes

8.3 Phase 4: Area 4A Land at Maltings Central Car Park (south)

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Water courses of plain to montane levels with <i>Ranuncion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Habitat loss	<ul style="list-style-type: none"> Temporary habitat loss during construction works in-channel has the potential to impact water crowfoot communities, and their associated processes within the river system and those species which utilise water crowfoot (fish, macro-invertebrates, water voles). During operation, the in-channel works will enhance the habitat within the river corridor. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	Habitat fragmentation from in-channel and bankside works	<ul style="list-style-type: none"> Potential for disruption of river continuity during construction works through disturbance of channel form and bed substrates including loss of seed bank within the river bed. Design to enhance in-channel and bankside habitat aims to improve biodiversity and may provide better connection between upstream and downstream habitats. <p>Potential for LSE during construction and positive LSE during operation</p>	Yes
	Changes to natural function resulting from modifications to in-channel and riparian habitat (including addition of riverside footpath and improved informal public seating areas).	<ul style="list-style-type: none"> It is considered the improved informal public seating areas within the riparian area of the river would have no significant effect on the water crowfoot habitat or the functioning of the SAC: the location of Phase 4A is in a reach through the Maltings, where the riparian zone is already heavily modified. During operation the works will provide continuation of the river corridor from Phase 1 works through habitat enhancements in-channel and bankside and improve connectivity to bankside areas. Bank and marginal enhancements have the potential to increase the accessibility of wildlife to the river corridor. This has the potential to increase the risk of cats and foxes accessing the marginal areas and affecting water vole. However it is considered that the Master Plan will promote lateral and longitudinal connectivity for water vole and improve their environment within the River Avon corridor beyond the current environment, thereby reducing overall impact. During construction, lateral connectivity within the reach may be impacted temporarily from in-channel and bankside works. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	Changes to siltation, smothering and turbidity from in-channel and riparian modifications.	<ul style="list-style-type: none"> During in-channel works to enhance habitat, disturbance of the river bed has the potential to mobilise silt deposits. Silt deposits mobilised in the water column have the potential to change turbidity levels and smother water crowfoot communities and their habitat. This has knock-on effects for biological receptors which utilise crowfoot communities, including fish, macro-invertebrates and water voles. Constructional activities to the riparian areas, namely installation of terraced seating, pedestrianised routes and renovation of the play area and open space have the potential for soil mobilisation and subsequent run-off into the watercourses. There will be no changes to turbidity and siltation during operation of this phase of the Master Plan. <p>Potential for LSE during construction</p>	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ The distinctive plant communities (including <i>Ranunculus</i> species) are susceptible to poor water quality and pollution. ▪ Toxic pollutants such as oil, fuel and hydraulic fluid could accidentally be released into the watercourse during construction when working in riparian and in-channel areas. ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction.</p>	Yes
	Invasive species from plant machinery	<ul style="list-style-type: none"> ▪ Invasive plant species have the potential to alter the hydromorphological condition of watercourses and thus impact on their distinctive plant communities (including <i>Ranunculus</i> spp.) through competition for light, space and habitat resource. <p>Potential for LSE during construction.</p>	Yes
	Increased recreational use of area by addition of informal seating areas, open space and play area renovations, space for public events, footpath and any associated lighting.	<ul style="list-style-type: none"> ▪ Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. ▪ Phase 4A is located in a reach of the River Avon which flows through the Maltings, which is already subject to artificial lighting. It is therefore considered that any associated footpath lighting will have negligible effects on the qualifying habitats and species of the SAC, or other distinctive species (otters and water voles) beyond the existing baseline. <p>Potential for LSE during operation</p>	Yes
	Physical damage from construction plant	<ul style="list-style-type: none"> ▪ Construction plant, although temporary, have the potential to cause physical damage to this qualifying habitat including <i>Ranunculus</i> species. Any working in-channel has the potential to affect the structure of the watercourses and associated riparian habitat mosaics and physically remove <i>Ranunculus</i> communities. <p>Potential for LSE during construction</p>	Yes
Atlantic salmon Brook lamprey Bullhead	Habitat loss from in-channel works	<ul style="list-style-type: none"> ▪ Areas of clean gravels are utilised by Atlantic salmon, bullhead and adult brook lamprey for spawning. Although temporary, potential for direct disturbance through loss of habitat during construction of terraced seating and any in-channel improvements. ▪ Potential for disturbance of silt beds during construction. Silt beds are optimum habitat for juvenile brook lamprey. ▪ Indirect impacts include temporary changes to riparian/bank habitat which provide vegetation/shade and inputs such as woody debris. ▪ On completion of in-channel and riparian works, the Master Plan will improve aquatic and riparian habitats. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	Habitat fragmentation caused by in-channel works and works to bank and riparian areas.	<ul style="list-style-type: none"> ▪ Although temporary, construction plant and works may cause a barrier to Atlantic salmon and brook lamprey movement in the watercourse and could potentially result in population fragmentation. Bullhead are a non-migratory fish species, residing in freshwater habitats for their entire life-cycle. Any barrier to their movement during construction is not considered to result in any likely significant impact on the species. 	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
		<ul style="list-style-type: none"> ▪ Channel connectivity will be maintained during operation and the in-channel works may improve connectivity allowing greater movement of fish through this reach. <p>Potential negative LSE on Atlantic salmon and brook lamprey during construction and positive LSE on all species during operation</p>	
	<p>Increased recreational use of area by improved informal seating, open space and play area renovations and space for public events including any associated lighting.</p>	<ul style="list-style-type: none"> ▪ Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. ▪ Phase 4A is through a reach of the River Avon which flows through the Maltings which is already subject to artificial lighting. It is considered any associated footpath lighting will have negligible effects on the SAC beyond the existing baseline. <p>Potential for LSE during operation</p>	Yes
	<p>Invasive species through in-channel plant and equipment</p>	<ul style="list-style-type: none"> ▪ Invasive species may be introduced to the River Avon SAC through construction plant and works equipment in-channel. Invasive species such as signal crayfish have the potential to impact the qualifying fish populations through predation on eggs and juveniles, displacement of juveniles from shelter, modification of habitats and competition for food. <p>Potential for LSE during construction.</p>	Yes
	<p>Changes to natural function resulting from modifications to in-channel and riparian habitat.</p>	<ul style="list-style-type: none"> ▪ The physical changes associated with the in-channel habitat enhancements and modifications to the channel are considered to have temporary localised effects on the current condition of the river corridor during the construction phase through in-channel activities. These temporary changes include. changes to habitat mosaics of the river, coarse sediment supply and the flow regime of the watercourses. These impacts are considered to occur during the construction phase. ▪ Consideration of the addition of a public footpath is provided above (see Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation). ▪ During operation the in-channel habitat enhancements should improve natural functioning in this reach. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	<p>Physical damage from construction plant</p>	<ul style="list-style-type: none"> ▪ Atlantic salmon and bullhead are highly mobile species and sensitive to disturbance, therefore are able to move away from areas of vibration. However, bullhead have a high fidelity to their habitat and in-channel constructional works, although temporary, have the potential to cause harm to individuals unwilling to leave preferential habitats. ▪ Brook lamprey have specific habitat requirements during their life-cycle. The specificity for silt beds during their larval developmental stages inhibits their movement within the aquatic environment to areas of other habitat, such as fast flowing, clean gravels. There is the potential for physical damage to juvenile brook lamprey during construction. ▪ In-stream works such as dewatering, over-pumping and machinery in the watercourses will cause vibrations within the aquatic environment, which can harm fish and impact on behaviour. 	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
		<ul style="list-style-type: none"> ▪ There would be no pathway to effect for physical damage to the qualifying fish species during operation. <p>Potential for LSE during construction.</p>	
	Siltation/smothering/turbidity from any in-channel and riparian works	<ul style="list-style-type: none"> ▪ A temporary increase in suspended sediments and high turbidity in the SAC during construction (from changes to marginal habitat where bankside improvements are proposed) have the potential to negatively affect Atlantic salmon and bullhead by reducing their ability to feed. Brook lamprey do not feed as adults so turbidity will not impact their feeding ability. Brook lamprey utilise silt dominated habitats until spawning where clean stones and gravels are sought. ▪ Increased sediment deposition in the watercourses, generated from in-channel works or riparian run off, has the potential to smother clean gravels required for spawning habitat and egg/larval survival, block gills and disrupt respiratory function, and reduce the availability of prey species for all qualifying fish species. ▪ Any deposition of sediments from construction may form discrete units that could be utilised by juvenile lamprey in the future. ▪ There is no pathway to effect from turbidity and siltation during operation for the qualifying fish species. <p>Potential for LSE on Atlantic Salmon and bullhead from turbidity and on all qualifying species from siltation during construction.</p>	Yes
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ Sources of toxic pollutants include substances such as oil, fuel and hydraulic fluid from construction plant. The accidental release of pollutants during construction could impact fish populations directly or indirectly ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction.</p>	Yes

8.4 Phase 5: Area 5A Rivers edge and riverside walk to rear of High Street

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Water courses of plain to montane levels with <i>Ranuncion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Habitat loss from naturalising marginal areas	<ul style="list-style-type: none"> There may be some locations within the reach which may require minor in-channel works to naturalise marginal areas. Any activities within the river have the potential to cause disturbance to habitat and temporary loss of habitat. During operation, there is no pathway to negative effect, but there should be some habitat gain resulting from the in-channel improvements. <p>Potential for negative LSE during construction and positive LSE during operation.</p>	Yes
	Habitat fragmentation from naturalising marginal areas.	<ul style="list-style-type: none"> The continuity of habitat in the reach may be affected by changes in channel form, water levels, flows and substrate during any in-channel construction activities. Any habitat fragmentation may affect the structure, function and quality of the habitat and its ability to support the site's distinctive species (e.g. fish, invertebrate assemblages, otter and water vole). During operation, there is no pathway to negative effect, but there should be some reduced fragmentation resulting from the in-channel improvements. <p>Potential for negative LSE during construction and positive LSE during operation.</p>	Yes
	Increased recreational use of area through a linear park with natural planting and footpath/seating, informal lawn area and any changes/additional lighting.	<ul style="list-style-type: none"> Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. The watercourse will remain inaccessible to the public, preventing any in-channel disturbance from public/dog walkers entering the stream. Phase 5A is through a reach of the River Avon which flows through an urbanised area of Salisbury, which is already subject to artificial lighting. It is therefore considered that any associated footpath lighting will have negligible effects on the qualifying habitats and species of the SAC, or other distinctive species which may utilise the river (otters and water voles) beyond the existing baseline. . <p>Potential for LSE during operation</p>	Yes
	Invasive species introduction and/or spread	<ul style="list-style-type: none"> Invasive plant species have the potential to alter the hydromorphological condition of watercourses and thus impact on their distinctive plant communities (including <i>Ranunculus</i> spp.) through competition for light, space and habitat resource. <p>Potential for LSE during construction.</p>	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	Changes to natural function resulting from modifications to marginal habitat.	<ul style="list-style-type: none"> ▪ During operation, there is no pathway to effect for loss of natural functioning within the River Avon SAC. ▪ The banks within this reach are artificially and heavily modified vertical structures with no connectivity to the river. The proposed stone-stepped seating is considered to not detrimentally impact the connectivity of the SAC (connectivity of the river to the riparian zone and to the underlying aquifer), nor the functioning of the water crowfoot community. ▪ Riparian inputs and connectivity to the watercourse will be improved through additional planting adjacent to the SAC and through marginal vegetation enhancements (positive LSE). ▪ However, the activity may result in temporary changes to the natural functioning of the watercourse and its hydromorphology during construction. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	Physical damage from any in-channel construction plant required for naturalisation of river margins	<ul style="list-style-type: none"> ▪ Construction plant, although temporary, have the potential to cause physical damage to this qualifying habitat including <i>Ranunculus</i> species. <p>Potential for LSE during construction</p>	Yes
	Siltation/smothering/turbidity from any in-channel and riparian works	<ul style="list-style-type: none"> ▪ Increased suspended sediment and siltation in the River Avon has the potential to alter bed substrate in the watercourses and to smother <i>Ranunculus</i> communities during construction. Sources of increased turbidity and siltation include any riparian works (run-off) and changes to channel beds, banks and flows. ▪ Additionally, a substantial increase in suspended load which is deposited onto the river bed has the potential to smother water crowfoot communities and affect establishment. This also has the potential to temporarily impact on the typical wildlife associated with the habitat; fish and freshwater macro-invertebrates. ▪ There will be no changes to turbidity and siltation during operation. <p>Potential for LSE during construction.</p>	Yes
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ The distinctive plant communities (including <i>Ranunculus</i> species) are susceptible to poor water quality and pollution. ▪ Toxic pollutants such as oil, fuel and hydraulic fluid could accidentally be released into the watercourse during construction when working in riparian and in-channel areas ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction.</p>	Yes
Atlantic salmon Brook lamprey	Habitat loss from naturalising margins.	<ul style="list-style-type: none"> ▪ Areas of clean gravels are utilised by Atlantic salmon, bullhead and adult brook lamprey for spawning. Although temporary, there is the potential for direct disturbance through loss of habitat during construction activities associated with naturalising the river's edge. 	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Bullhead		<ul style="list-style-type: none"> ▪ Potential for disturbance of silt beds during construction. Silt beds are optimum habitat for juvenile brook lamprey. Habitat mapping during assessment of water crowfoot communities suggests sub-optimum habitat for brook lamprey. ▪ Indirect impacts include temporary changes to riparian/bank habitat which provide vegetation/shade and inputs such as woody debris. ▪ During operation there should be some habitat gain resulting from the in-channel improvements, benefitting local fish communities. <p>Potential for negative LSE during construction and positive LSE during operation</p>	
	Habitat fragmentation from works to improve marginal areas	<ul style="list-style-type: none"> ▪ Although temporary, construction plant and works may cause a barrier to Atlantic salmon and brook lamprey movement in the watercourse and could potentially result in population fragmentation. Bullhead are a non-migratory fish species, residing in freshwater habitats for their entire life-cycle. Any barrier to their movement during construction is not considered to result in any likely significant impact on the species. ▪ Channel connectivity will be maintained during operation. Additionally there should be improved linkage between upstream and downstream habitats resulting from the in-channel improvements, providing better longitudinal connectivity for fish. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes
	Increased recreational use of area through a linear park with natural planting and footpath/seating, informal lawn area associated addition of artificial lighting.	<ul style="list-style-type: none"> ▪ Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. ▪ Phase 5A is through a reach of the River Avon which flows through an urbanised area of Salisbury, which is already subject to artificial lighting. It is considered any associated footpath lighting will have negligible effects on the SAC beyond the existing baseline. ▪ The watercourse will remain inaccessible to the public, preventing any in-channel disturbance from public/dog walkers entering the stream. <p>Potential for LSE during operation</p>	Yes
	Invasive species introduction and/or spread from any in-channel works	<ul style="list-style-type: none"> ▪ Invasive species may be introduced to the River Avon SAC through construction plant and works equipment in-channel. ▪ Invasive species have the potential to impact the qualifying fish populations through predation on eggs and juveniles, displacement of juveniles from shelter, modification of habitats and competition for food. <p>Potential for LSE during construction.</p>	Yes
	Changes to natural function resulting from modifications to marginal habitat.	<ul style="list-style-type: none"> ▪ This reach of the River Avon shows evidence of historic artificial naturalisation of marginal areas. ▪ Marginal habitat enhancement aims to improve natural function further, enhancing the mosaic of habitats and improving lateral and longitudinal connectivity. ▪ The activities may result in temporary changes to the natural functioning of the watercourse and its hydromorphology during in-channel works during the construction phase. <p>Potential for negative LSE during construction and positive LSE during operation</p>	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	Physical damage	<ul style="list-style-type: none"> ▪ Atlantic salmon and bullhead are highly mobile species and sensitive to disturbance, therefore are able to move away from areas of vibration. However, bullhead have a high fidelity to their habitat and in-channel constructional works, although temporary, have the potential to cause harm to individuals unwilling to leave preferential habitats. ▪ Brook lamprey have specific habitat requirements during their life-cycle. The specificity for silt beds during their larval developmental stages inhibits their movement within the aquatic environment to areas of other habitat, such as fast flowing, clean gravels. Habitat mapping during water crowfoot surveys suggest sub-optimum habitat for juvenile brook lamprey. LSE cannot be ruled out, therefore there is the potential for physical damage to juvenile brook lamprey during construction. ▪ In-stream works in the watercourse will cause vibrations within the aquatic environment, which can harm fish. ▪ There would be no pathway to effect for physical damage to the qualifying fish species during operation. <p>Potential for LSE during construction.</p>	Yes
	Siltation/smothering/turbidity from any in-channel and riparian works	<ul style="list-style-type: none"> ▪ A temporary increase in suspended sediments and high turbidity in the SAC during construction (from changes to marginal habitat where increased planting is proposed to naturalise marginal areas) have the potential to negatively affect Atlantic salmon and bullhead by reducing their ability to feed. Brook lamprey do not feed as adults so turbidity will not impact their feeding ability. Brook lamprey utilise silt dominated habitats until spawning where clean stones and gravels are sought. ▪ Increased sediment deposition in the watercourses, generated from in-channel works or riparian run off, has the potential to smother clean gravels required for spawning habitat and egg/larval survival, block gills and disrupt respiratory function, and reduce the availability of prey species for all qualifying fish species. ▪ Any deposition of sediments from construction may form discrete units that could be utilised by juvenile lamprey in the future. ▪ There is no pathway to effect from turbidity and siltation during operation for the qualifying fish species. <p>Potential for LSE on Atlantic Salmon and bullhead from turbidity and on all qualifying species from siltation during construction.</p>	Yes
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ Sources of toxic pollutants include substances such as oil, fuel and hydraulic fluid from construction plant. The accidental release of pollutants during construction could impact fish populations directly or indirectly. ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction.</p>	Yes

8.5 Phase 6: Area 6A and Area 6B

Area 6A: NHS buildings and Tesco service yard and Area 6B: The Maltings parade/Bishop's Mill

- Due to the nature of the Area 6A and Area 6B design and similar associated risks to qualifying features of the River Avon SAC (water crowfoot communities, Atlantic salmon, bullhead and brook lamprey), these features have been considered together. This has avoided repetition within the table for each qualifying feature and risk.
- Physical damage has been screened out of this assessment as there is no pathway to effect. There will be no in-channel works or activities during construction or operation that could impact the SAC features.

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Habitat loss and fragmentation from replacement/strengthening of the footbridge.	<ul style="list-style-type: none"> The proposed works will not change the footprint of the bridge. It is considered to have no detrimental impact on habitat or habitat fragmentation of qualifying features from the current baseline. It is considered if at a later date the design changes and the bridge is to be replaced any scheme level HRA will need to re-consider the proposal and the effect of the replacement structure on the qualifying features and habitat of the River Avon SAC. <p>No LSE during construction or operation</p>	No
Atlantic salmon Brook lamprey Bullhead	Increased recreational use from enhanced seating areas	<ul style="list-style-type: none"> Increased footfall alongside the river presents a new risk of accidental (e.g. littering) or deliberate (e.g. vandalism) disturbance of the river compared to the present situation. <p>Potential for LSE during operation</p>	Yes
	Changes to natural function from increased riparian planting/screening	<ul style="list-style-type: none"> Addition of planting to screen and green the appearance of the existing service yard, and planting to riparian areas has the potential to benefit aquatic communities within the River Avon. Naturalising riparian areas has the potential to promote connectivity of the main channel to bank to riparian areas through improving detrital and vegetative inputs. <p>No negative LSE during construction or operation but positive LSE during operation</p> <ul style="list-style-type: none"> A longer-term ambition is to extend the public open space that sits between the two river channels delivered in Phase 4A into private surface level car parking, to further open out the river frontage and improve public realm. It is considered if in the future this proposal moves forward, it will require a scheme level HRA. 	No
	Soil mobilisation, smothering and turbidity during construction of the addition of riparian planting	<ul style="list-style-type: none"> Physical works to plant the riparian areas may result in soil mobilisation entering the watercourse. This has the potential to smother water crowfoot communities and available coarse substrates utilised by fish. <p>Potential for LSE during construction</p>	Yes

Qualifying feature	Risk (pressure)	Likely significant effect alone	Yes or No
	Toxic contamination from pollution incident	<ul style="list-style-type: none"> ▪ No heavy plant will be required for the planting / screening of public areas or the setting of new seating facilities. ▪ Strengthening or replacement of the footbridge may require use of plant machinery. Sources of toxic pollutants include substances such as oil, fuel and hydraulic fluid from construction plant. The accidental release of pollutants during construction could impact fish populations directly or indirectly. ▪ There is no pathway to effect from toxic contamination during operation. <p>Potential for LSE during construction</p>	Yes
	Invasive species from plant and machinery	<ul style="list-style-type: none"> ▪ Invasive plant species have the potential to alter the hydromorphological condition of watercourses and thus impact on their distinctive plant communities (including <i>Ranunculus</i> sp) and fish communities through competition for light, space and habitat resource. ▪ Although no in-channel works are proposed, there is potential for a pathway to impact for construction activities over the channel. <p>Potential for LSE during construction</p>	Yes

9. Alone assessment (further details)

A summary of the Stage 1 screening for Likely Significant Effects on the qualifying features of the River Avon SAC is provided in Table 9.1. This table has omitted those risk (pressures) which were assessed as not relevant to this Master Plan proposal (see Section 7).

The Stage 1 screening assessment has concluded that the Master Plan has the potential for Likely Significant Effects.

It is therefore concluded from this Stage 1 Screening Assessment of the Master Plan that a Stage 2 Appropriate Assessment is required. The Appropriate Assessment will consider any mitigation work which may be required due to the development.

Table 9.1: Summary of the risks to qualifying features of the River Avon SAC for the SRPMP.

Master Plan Phase	Qualifying feature	Habitat loss	Habitat fragmentation	Natural function	Siltation, turbidity, smothering	Toxic contamination	Invasive species	Increased recreational use	Physical damage
3A	Water courses of plain to montane levels with <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
	Atlantic salmon, brook lamprey, bullhead	No	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
4A	Water courses of plain to montane levels with <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
	Atlantic salmon, brook lamprey, bullhead	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
5A	Water courses of plain to montane levels with <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
	Atlantic salmon, brook lamprey, bullhead	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Construction	Yes Operation	Yes Construction
6A, 6B	Water courses of plain to montane	No	No	No	Yes Construction	Yes Construction	Yes Construction	Yes Operation	No

Master Plan Phase	Qualifying feature	Habitat loss	Habitat fragmentation	Natural function	Siltation, turbidity, smothering	Toxic contamination	Invasive species	Increased recreational use	Physical damage
	levels with <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation								
	Atlantic salmon, brook lamprey, bullhead	No	No	No	Yes Construction	Yes Construction	Yes Construction	Yes Operation	No

10. In-combination assessment

Other plans, strategies and projects have been identified, which may have potential to affect the European site, in-combination with the Master Plan. These are listed below:

- Salisbury River Park Master Plan Phase 1: River Corridor Improvements Scheme – the scheme comprises construction of flood defence embankments and walls, flood control measures and river channel modifications including river widening and rock weirs in the ‘Ashley Road’ and the ‘Maltings and Central Car Park’ areas of Salisbury. These are designed to provide improved flood defence and to increase channel capacity and flood flow conveyance. Phase 1 of the scheme (and Phase 1 of the Master Plan) will comprise:
 - Ashley Road area - construction of a new flood defence embankment along the southern boundary of Fisherton Recreation Ground, channel infilling, new flow control structures, creation of a new offtake channel with new wetland habitat, amenity improvements and localised ground raising or flood wall in a private garden and,
 - Maltings and Central Car Park area – creation of a two-staged channel with wetland habitat by widening the corridor of the River Avon main channel, removal of Swimming Pool Gate structure, channel bed reprofiling, new, or extension of existing, culverts, modified layout of fish pass weirs, in-channel works to Mill Stream, removal of hatches, small length of new flood wall, replacement of Millstream Approach road bridge, localised ground raising at Coach Park and amenity improvements.
- Maltings Central Car Park Master Plan: redevelopment of the Maltings and Central Car Park in Salisbury. Five areas have been identified; Market Walk and The Maltings, Cultural Quarter, Commercial and Residential Core, Riverside and Salisbury Coach Park welcome and Land between Fisherton Street and the railway lane. A number of redevelopments are proposed including public realm enhancement, new pedestrian routes, enhanced streetscape, and increased active frontages for shops/bars etc. Some of the riverside enhancements associated with land adjacent to the River Avon and its tributaries within the Maltings and Central Car Park Area are considered as part of the Master Plan (Phases 2-6). The activities further afield from the River Avon, within the car park, commercial, cultural and residential areas have the potential to interact with the River Avon SAC through surface water drainage.
- Hydropower scheme under consideration at Bishop’s Mill site at the Maltings by Salisbury Community Energy: possible future proposal for a water wheel on the Bishop’s Mill site to generate electricity. As a planning application for this project has not been submitted, no further details are available at the current time. However, it is considered that any hydropower scheme will need guaranteed flow, and there is potential for changes to sediment transport from alterations to flow/velocity brought about by the nature of hydropower. Therefore, potential in-combination impacts are considered.
- An application for change of use from offices to flats has been submitted at 141 Castle Street. This is the building adjacent to the River Avon (left bank) before the River Avon splits at Swimming Pool Gate and lies within Phase 1 of the River Park Master Plan. The planning application is for demolition of existing office building and redevelopment of site as 66 number purposed built flats in two blocks, with associated parking, landscaping, amenity space and dedicated site access. Although this development has no interaction with the channel or banks, there is potential to interact with the River Avon SAC and its features through surface water drainage.

Table 10.1 identifies the potential pressures which may cause significant in-combination and cumulative impacts on the River Avon SAC features; Atlantic salmon, brook lamprey and bullhead populations and Water courses of plain to montane levels with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation.

These can be summarised as follows:

- Potential in-combination effects of different phases of the Master Plan (include Phase 1 river corridor improvements);
- Potential in-combination effects of the Maltings Central Car Park Master Plan;
- Potential in-combination effects with the Hydropower scheme, and
- Potential in-combination effects of the Castle Street Development.

Table 10.1: Potential in-combination effects from the multiple phases of the Master Plan: 'P' denotes Phase of the Master Plan, 'MCCP' denotes Maltings Central Car Park Master Plan), 'HP' denotes hydropower scheme and 'CSD' denotes Castle Street Development.

Master Plan Phase	Qualifying feature	Habitat loss	Habitat fragmentation	Natural function	Siltation, turbidity, smotherin	Toxic contamination	Invasive species	Increased recreational use	Physical damage
3A	Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	P1, 4-5	P1, 5	P1, 4-5	P1, 3-6 MCCP CSD HP	P1, 4-5	P1, 4-5	P1, 3-6	P1, 4-5
	Atlantic salmon, brook lamprey, bullhead	No	P1, 4	P1, 4-5	P1, 4-6 MCCP CSD HP	P1, 4-5	P1, 4-5	P1, 3-6	P1, 4-5
4A	Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	P1, 3-5	No	P1, 3-5	P1, 3-6 MCCP CSD HP	P1, 3-5	P1, 3-5	P1, 3-6	P1, 3-5
	Atlantic salmon, brook lamprey, bullhead	P1, 5	P1, 3	P1, 3-5	P1, 3, 5-6 MCCP CSD HP	P1, 3-5	P1, 3-5	P1, 3-6	P1, 3-5
5A	Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	P1, 3-5	P1, 3	P1, 3-5	P1, 3-6 MCCP CSD HP	P1, 3-5	P1, 3-5	P1, 3-6	P1, 3-5
	Atlantic salmon, brook lamprey, bullhead	P1, 4	No	P1, 3-4	P1, 3-4, 6 MCCP CSD HP	P1, 3-5	P1, 3-5	P1, 3-6	P1, 3-5
6A, 6B	Water courses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	No	No	No	P1, 3-5 MCCP CSD HP	No	No	P1-6	No
	Atlantic salmon, brook lamprey, bullhead	No	No	No	P1, 2A, 3-5 MCCP CSD HP	No	No	P1-6	No

11. Information and/or advice

Natural England, Environment Agency, Wiltshire Council

Correspondence to date:

- Environmental Impact Assessment Scoping consultation: Natural England feedback on proposals for the River Park Master Plan and EIA Scoping Opinion (29th June 2020) on Phase 1 planning application.
- Meeting with Jacobs, Natural England, Wiltshire Council and the Environment Agency to discuss the approach to the Master Plan HRA for the Salisbury River Park Scheme – 11th September 2020 (Appendix A).
- Follow-up meeting with Jacobs, Wiltshire Council and the Environment Agency to discuss HRA specifics – 22nd September 2020.

12. Decision

Jacobs carried out the HRA Stage 1 screening on behalf of Wiltshire Council and conclude that there is potential for likely significant effects alone and in-combination on Atlantic salmon, brook lamprey, bullhead and Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation within the River Avon SAC from delivery of the Salisbury River Park Master Plan.

An Appropriate Assessment will be required for the Salisbury River Park Master Plan.

Item Number	Subject	Minutes
3	Programme for Master Plan – level of detail to assess	<ul style="list-style-type: none"> ▪ Further information is required on the specific activities of the construction phases and any works that fall under Phase 1 of the Master Plan that may not be assessed separately under the Phase 1 scheme. AW/LK/NS to provide further details. ▪ EA carrying out e-fish survey for Phase 1 scheme – to provide update on current fish communities. A macrophyte survey for the Phase 1 scheme has already been undertaken. Data will be useful to inform the HRA. ▪ A number of risks were highlighted and discussed, to be included in the HRA assessment, additional to those identified in the EIA screening opinion by Natural England. The most pertinent were; increased recreational use, night-life economy, temporary access routes and lighting, as well as risks around the decking area at Water Lane. ▪ Although not qualifying species, consideration of water voles and otters within the HRA. ▪ In-combination effects: consideration of other developments such as the Maltings Car Park.
4	Phase 1 and the Master Plan HRA	As discussed in Item Number 2, bullet point 2.
5	Next steps and actions	<ul style="list-style-type: none"> ▪ Master Plan to go to public consultation in November 2020. ▪ Looking to obtain comment from Natural England for an 'agreement to proceeding' or letter of comfort for the HRA Screening by November.
6	AOB	



Figure 1: River Park Master Plan. An HRA for Phase 1 has been completed separately (the River Corridor Improvement Scheme). The Master Plan HRA, discussed in this meeting will focus on phases 2-6.