

A303 Sparkford to Ilchester Dualling Scheme TR010036

6.3 Environmental Statement Appendix 4.5 Water Framework Directive Screening and Scoping Assessment

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Infrastructure Planning

Planning Act 2008

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A303 Sparkford to Ilchester Dualling Scheme

Development Consent Order 201[X]

6.3 Environmental Statement Appendix 4.5 Water Framework Directive Screening and Scoping Assessment

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1 Introduction

1.1 Overview of the scheme

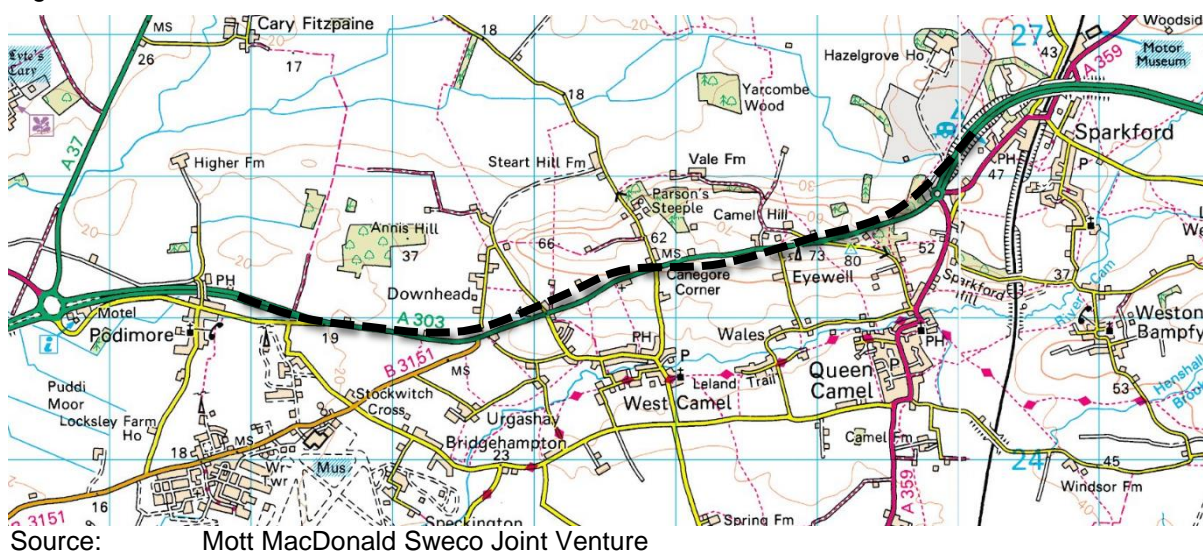
Existing corridor

- 1.1.1 The A303 forms part of Highways England's Strategic Road Network (SRN) and a strategic link between the south west and the rest of the south, south-east and London. The route comprises multiple road standards, including dual carriageway, single carriageway and single carriageway sections with overtaking lanes. Speed limits also vary between 40 miles per hour and 70 miles per hour, depending on the character of the road and its surroundings.

Existing road

- 1.1.2 The section of the A303 that is being upgraded as part of this scheme commences at the eastern limits of the existing dual carriageway, the Podimore Bypass. Travelling east, the corridor reaches the junction with the B3151 before bearing north east and rising upwards through Canegore Corner to reach the crest of Camel Hill at Eyewell. This section of the corridor is characterised by a single lane road, with double white lines negating overtaking and subject to a 50 miles per hour speed limit. There are several priority junctions along the route giving access to the settlements of Queen Camel and West Camel to the south and Downhead to the north, as well as several farm accesses and parking laybys.
- 1.1.3 From the crest of Camel Hill, the corridor descends to meet the roundabout at the western limit of the dual carriageway Sparkford Bypass (Hazlegrove Roundabout). This section comprises 2 lanes in the westbound direction, 1 lane in the eastbound direction and is also subject to a 50 miles per hour speed limit. Hazlegrove Roundabout forms a junction between the A303 and the A359 which runs south through Queen Camel and north-east through Sparkford. The roundabout also provides access to a service station, and to a school at Hazlegrove House.
- 1.1.1 The section of the A303 that is to be upgraded is almost 3.5 miles, or approximately 5.6 kilometres long.
- 1.1.4 The extents of the scheme are illustrated in Figure 1.1 below. Figure 2.1 of Volume 6.2 shows the proposed red line boundary for the scheme.

Figure 1.1: Scheme extents



Scheme proposals

- 1.1.2 The proposed scheme is to provide a continuous dual-carriageway linking the Podimore Bypass and the Sparkford Bypass. The scheme would involve the removal of at-grade junctions and direct accesses. The Hazlegrove Junction would be constructed to grade-separated standards and Downhead Junction and Camel Cross Junction would be constructed to compact grade-separated standards, as illustrated on Figure 2.3 General Arrangement Plans, contained in Volume 6.2.
- 1.1.5 A detailed description of the scheme is provided within Chapter 2 The Scheme of Volume 6.1.

1.2 Key scheme elements (during construction and operation)

- 1.2.1 The scheme elements which have the potential to affect water resources are described below.

Construction phase

- 1.2.2 There is the potential for localised and temporary water quality impacts as a result of construction works, although it is anticipated that this would be minimal and would be further reduced with sensitive construction techniques. These measures are detailed within the **Outline Environmental Management Plan (OEMP) (document reference TR010036/APP/6.7)** that has been produced to support the Development Consent Order (DCO) application, and would be developed into a full Construction Environmental Management Plan (CEMP) by the appointed contractor prior to construction.
- 1.2.3 Temporary construction impacts are not considered further within the assessment as the Water Framework Directive (WFD) considers long-term,

permanent impacts that could result in a waterbody status change, such as those associated with the operational phase.

Operational phase

1.2.4 Potential water quality impacts could occur during the operational phase as a result of the following:

- the effects of traffic (vehicle emissions and leakages).
- the effects of maintenance, including de-icing salts and weed control herbicides.
- normal depositions on the highway, such as litter, agricultural activities and animal waste.
- spillages, as a result of accidents.

2 The Water Framework Directive

2.1 Legislation

- 2.1.1 The Water Framework Directive (WFD) is a European Directive¹ introduced in 2000 which aims to protect and improve the water environment. The WFD is transposed into English and Welsh law by the 2017 Regulations².
- 2.1.2 The WFD requires European Union member states to identify and set objectives for protecting and improving waterbodies. Waterbodies include rivers, streams, lakes, reservoirs, estuaries, coastal waters, canals and groundwaters. The standard objective is to achieve good status, or good potential (if the waterbody is artificial or has been extensively modified), and to protect the waterbody by preventing any deterioration in status.
- 2.1.3 Good status or potential is made up of ecological and chemical components in surface waters. Ecological status consists of biological quality elements, physico-chemical supporting elements and hydromorphological supporting conditions. For groundwater, status consists of quantitative and qualitative elements.
- 2.1.4 The WFD environmental objectives are outlined in Table 2.1 below.

Table 2.1: WFD Environmental Objectives

Objectives (Article 4 of the WFD)	Reference and description
4.1 (a)(i)	WFD1 - Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water
4.1 (a)(ii)	WFD2 - Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status by 2015.
4.1 (a)(iii)	WFD3 - Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status by 2015.
4.1(a)(iv)	WFD4 - Progressively reduce pollution from priority substances and cease or phasing out emissions, discharges and losses of priority hazardous substances.
4.1 (b)(i)	WFD5 - Prevent Deterioration in Status and prevent or limit input of pollutants to groundwater

¹ Directive 2000/60/EC of the European Parliament and Council of 23 October 2000 establishing a framework for community action in the field of water policy (the 'Water Framework Directive')

² SI 2017/407 revoke and replace The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (subject to transitional provisions in article 38 of the 2017 regulations).

2.2 Three stage assessment process

- 2.2.1 The Planning Inspectorate have produced Advice Note 18: The Water Framework Directive³, relevant specifically for Development Consent Order (DCO) applications. This advice note recommends that WFD assessments are completed in a 3-stage approach, which corresponds with the Environment Agency's guidance on WFD assessment for estuarine and coastal waters⁴.

Stage 1 (WFD screening)

- 2.2.2 Stage 1 (WFD screening) is an initial assessment to determine if there are any activities associated with the proposed development which may impact waterbodies within the vicinity. The proposed development's 'zone of influence' should be identified, accompanied by a map of waterbodies, and shared with the Environment Agency.

Stage 2 (WFD scoping)

- 2.2.3 Stage 2 (WFD scoping) comprises a more detailed assessment to identify risks from the proposed development to receptors (within the zone of influence) based on the relevant waterbodies and their quality elements. The aim of this assessment is to identify if any waterbodies will require further detailed assessment. At this stage, the scope of further assessment work at Stage 3 should be defined and agreed with the Environment Agency.

Stage 3 (WFD impact assessment)

- 2.2.4 Stage 3 (WFD impact assessment) is a detailed assessment of waterbodies and activities carried forward from the screening stage. It must include identification of waterbodies, description of the proposed development, methods used to determine impacts, risk of deterioration, and mitigation required.

2.3 Scope of this assessment

- 2.3.1 This assessment will cover the first 2 stages (screening and scoping) of the 3-stage assessment process outlined above. This process will determine whether a full WFD impact assessment (stage 3) is required.
- 2.3.2 This assessment supports, and should be read in conjunction with Appendix 4.3 Road Drainage and the Water Environment Assessment Summary, Volume 6.2.

³ The Planning Inspectorate (2017) Advice note eighteen: The Water Framework Directive [online] available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2017/06/advice_note_18.pdf (last accessed March 2018).

⁴ Environment Agency (2017) Water Framework Directive assessment: estuarine and coastal waters [online] available at: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters> (last accessed March 2018).

3 Stage 1 Water Framework Directive Screening

3.1 Activities which could affect the water environment

- 3.1.1 There are no proposed works or activities as part of the scheme which would require works within or physical modifications to waterbodies (for example, watercourse crossings or realignments). The primary aspect of the scheme which has potential to affect waterbodies is routine surface runoff or accidental spillage incidents on the carriageway entering the drainage system.
- 3.1.2 There are 4 planned outfalls in the scheme design, which would discharge directly into drainage ditches adjacent to the carriageway. These ditches drain into ordinary watercourses, which subsequently discharge into rivers. These outfalls present potential impact pathways by which the water environment could be affected by the scheme. More detail on the proposed outfalls is provided in section 4.1

3.2 Waterbodies within the scheme's zone of influence

- 3.2.1 The zone of influence for the scheme includes any waterbodies (surface waterbodies or groundwater bodies) that lie within a 1 kilometre radius of the scheme⁵. Waterbodies located outside of this 1 kilometre radius (but a hydraulic connection to those that are) may be affected by downstream pollutant/contaminant transport from the scheme and have been included in this screening assessment. This includes downstream waterbodies within 10 kilometre radius of the scheme.
- 3.2.2 The scheme is located within the *South West River Basin Management Plan* (RBMP). The first RBMP was published in 2009⁶, and updated in 2015⁷. With regards to surface waters, the Scheme lies within the 'Somerset and South West' Management Catchment, and within the 'Parrett' Operational Catchment⁸. For groundwaters, the scheme lies within the 'South West Groundwaters' Management Catchment.

⁵ 1km Zone of Influence (ZOI) consistent with the ZOI identified in the Environmental Impact Assessment Scoping Report submitted to the Planning Inspectorate in November 2017.

⁶ Environment Agency (2009) River Basin Management Plan, South West River Basin District.

⁷ Environment Agency (2015) South West River Basin District, River Basin Management Plan.

⁸ Information on management catchments, operational catchments and waterbodies obtained from the Environment Agency's catchment data explorer [online] available at:

<http://environment.data.gov.uk/catchment-planning/ManagementCatchment/3080> (last accessed March 2018).

Surface waters

- 3.2.3 There are 2 WFD surface waterbodies / waterbody catchments which lie within the 1 kilometre zone of influence of the scheme; the River Cary (Cary - source to confluence with KSD) and the River Cam (Cam - Lower).
- 3.2.4 There are 5 other WFD surface waterbodies that lie within a 10 kilometre buffer zone of the scheme; the 'Cam Upper', 'Cam tributary', 'River Yeo (Yeo downstream of Over Compton)', 'Hornsey Brook' and 'King's Sedgemoor Drain (Henley sluice to mouth)'. These waterbodies are located outside of the 1 kilometre zone of influence, but have a hydraulic connection to waterbodies that may be affected by pollutant/contaminant transport.
- 3.2.5 The plan within appendix A shows the red line boundary of the scheme, with planned outfall locations shown in relation to WFD surface waterbodies that lie within the 1 kilometre zone of influence. Information used in the map has been obtained from the Environment Agency Catchment Data Explorer⁹ and Natural England Open Data Geoportal.¹⁰
- 3.2.6 The plan within appendix B shows the scheme in relation to the wider WFD waterbody network and also shows statutory wildlife designations. The 1 kilometre zone of influence is shown, as well as a 10 kilometre buffer zone. Information used in the map has been obtained from the Environment Agency Catchment Data Explorer and Natural England Open Data Geoportal.

Groundwaters

- 3.2.7 There are no WFD groundwater bodies located within the 1 kilometre zone of influence. The nearest WFD groundwater bodies are the 'Tone and Somerset north streams' situated 3 kilometres north west of the scheme, and the 'Dyrham Formation – north of Yeovil Fragmented' situated 3 kilometres south east of the scheme.
- 3.2.8 The bedrock underlying the project area is the Blue Lias Formation and Charmouth Mudstone Formation (undifferentiated). The bedrock deposits are classified mostly as Secondary A Aquifer, although there is a strip of bedrock between Podimore and Sparkford that is classified as Secondary B Aquifer.
- 3.2.9 There are no superficial deposits located within the 1 kilometre zone of influence however, there are alluvium deposits situated north of the existing A303 carriageway (on the River Cary's floodplain) and an area of river terrace

⁹ Environment Agency (2018) Catchment Data Search [online] available at: <http://environment.data.gov.uk/catchment-planning/> (last accessed March 2018).

¹⁰ Natural England (2018) Natural England Open Data Geoportal [online] available at: <https://naturalengland-defra.opendata.arcgis.com/> (last accessed March 2018).

deposits to the south-west. These superficial deposits are classified as Secondary A aquifers.

- 3.2.10 Soils within the 1 kilometre zone of influence comprise mainly loamy and clay soils, so the natural drainage system is to surface watercourses with impeded drainage to groundwater¹¹.
- 3.2.11 The plan within appendix C shows the scheme in relation to groundwater bodies. The 1 kilometre zone of influence and 10 kilometre buffer zone are shown for reference. Information used in the map has been obtained from the Environment Agency Catchment Data Explorer and Natural England Open Data Geoportal.

3.3 Potential impact pathways: screening assessment

- 3.3.1 Table 3.1 below provides a summary of WFD surface and groundwater bodies located within a 10 kilometre radius of the scheme, identifying which waterbodies are considered to have a potential impact pathway and screened in for Stage 2 assessment.

¹¹ Cranfield University (2017) Soilscales Map [online] available at: <http://www.landis.org.uk/soilscales/> (last accessed March 2018).

Table 3.1: WFD waterbodies within 10km radius of the scheme

Waterbody name	WFD ID	Relationship to the scheme	Potential impact pathway?	Screen in to Stage 2?
<i>Surface waters</i>				
River Cary (Cary - source to confluence with KSD)	GB108052015140	<ul style="list-style-type: none"> Scheme is situated directly within catchment of this waterbody. Main River Cary located 750m north west of the scheme. Three proposed outfalls from the new carriageway would discharge into field ditches before draining Park Brook and Dyke Brook, both of which drain into the River Cary. 	Yes – scheme lies within catchment.	✓
King Sedgemoor Drain (Henley sluice to mouth)	GB108052021150	<ul style="list-style-type: none"> Scheme is not situated directly within catchment of this waterbody. Waterbody is located over 15km downstream of the scheme. 	No – waterbody over 15km downstream of the scheme, impact pathway very unlikely.	X
River Cam (Cam - Lower)	GB108052015650	<ul style="list-style-type: none"> Scheme is situated directly within catchment of this waterbody. Main River Cam located approximately 650m south of the scheme. One proposed outfall from the new carriageway would discharge into a field ditch, before draining into the River Cam. 	Yes - scheme lies within catchment.	✓
River Yeo (Yeo downstream of Over Compton)	GB108052015682	<ul style="list-style-type: none"> Scheme is not situated directly within catchment of this waterbody. River Yeo is located just over 4km downstream of the River Cam. 	Yes – situated downstream of the River Cam.	✓
Hornsey Brook	GB108052015640	<ul style="list-style-type: none"> Scheme is not situated directly within catchment of this waterbody. Waterbody is located 2km south of the scheme, forming a confluence with the River Yeo just upstream of the Yeo / Cam confluence. 	No – watercourse is located upstream of River Cam / River Yeo confluence, impact pathway infeasible.	X
Cam Upper	GB108052015690	<ul style="list-style-type: none"> Scheme is not situated directly within catchment of this waterbody. Waterbody is located 2km to the east of the scheme, joining the Cam Lower to the east of Sparkford. 	No – scheme not anticipated to affect upstream waterbodies, impact pathway infeasible.	X
Cam tributary	GB108052015670	<ul style="list-style-type: none"> Scheme is not situated directly within catchment of this waterbody. Waterbody is located 2km to the east of the scheme, joining the Cam Lower to the east of Sparkford. 	No – scheme not anticipated to affect upstream waterbodies, impact pathway infeasible.	X
<i>Ground waters</i>				
Tone and Somerset north streams	GB40802G806400	<ul style="list-style-type: none"> Scheme is not situated directly within/above this waterbody. Waterbody is located 3km to the north west of the scheme. 	No – scheme is not anticipated to affect groundwaters, there are no planned runoff discharges to groundwater as part of the scheme design. Local soil conditions will also impede drainage to groundwaters making an impact pathway very unlikely.	X
Dyrham Formation – north of Yeovil Fragmented	GB40802G803700	<ul style="list-style-type: none"> Scheme is not situated directly within/above this waterbody. Waterbody is located 3km to the south east of the scheme. 	No – scheme is not anticipated to affect groundwaters, there are no planned runoff discharges to groundwater as part of the scheme design. Local soil conditions will also impede drainage to groundwaters making an impact pathway very unlikely.	X
Secondary A and Secondary B aquifers (not WFD waterbody)	N/A (not WFD waterbody)	<ul style="list-style-type: none"> A Secondary A aquifer underlies the entire scheme, with a strip of Secondary B aquifer west of Podimore and east of Sparkford. 	No - scheme is not anticipated to affect aquifers, there are no planned runoff discharges to groundwater as part of the scheme design. Local soil conditions will also impede drainage to groundwaters/aquifers making an impact pathway very unlikely.	X

4 Stage 2 Water Framework Directive Scoping

4.1 Proposed drainage and outfalls

- 4.1.1 There are 4 outfalls proposed as part of the drainage design for the scheme (see corresponding Drainage Strategy Report, appendix 4.7, Volume 6.3). The location of outfalls, and the corresponding receiving watercourses are outlined in Table 4.1. The outfall locations are shown on the plans within appendix A and B.
- 4.1.2 Each of the outfalls would discharge directly into wet retention ponds situated adjacent to the carriageway, before discharging into field ditches (unnamed watercourses), which drain into ordinary watercourses, and then into rivers. Flow control devices would be installed on the outlet of the attenuation ponds to control the rate at which water is discharged into the field ditches.
- 4.1.3 Prior to discharging into the wet retention pond, runoff from the carriageway or adjacent embankments would have been treated as it flows through surface/subsurface drains and drainage ditches. These measures would remove excess contaminants and sediments from the runoff. Further contaminants and sediments would settle out of the water in the wet retention ponds. The proposed ditches and attenuation ponds would be lined or comprise of concrete sections to eliminate any pollutant pathway to groundwater.
- 4.1.4 Additionally, manually operated penstocks would be provided immediately prior to all outfalls leading to a watercourse, and upstream of attenuation pond flow control devices. In the event of an accidental spillage either the Environment Agency, Highways England Maintaining Agent or Highways England Traffic Officer would be able to operate the penstock to significantly reduce the quantity of pollutants reaching watercourses.
- 4.1.5 Further detail on the mitigation is provided within the Drainage Strategy Report for the scheme (appendix 4.7, Volume 6.3).

Table 4.1: Locations of outfalls within drainage design and receiving waterbodies

Outfall number	Easting	Northing	Receiving watercourse	Downstream receiving WFD waterbody
1	354847	125210	Unnamed watercourse, draining into Park Brook	River Cary
2	355880	124904	Unnamed watercourse, draining into Park Brook	River Cary
3	357184	125003	Unnamed watercourse, draining into River Cam	River Cam
4	359447	126114	Unnamed watercourse, draining into Dyke Brook	River Cary

4.2 Baseline status of screened-in waterbodies

4.2.1 There are 3 surface waterbodies that are considered to have potential impact pathways in relation to the scheme:

- River Cary (Cary - source to confluence with KSD)
- River Cam (Cam - Lower)
- River Yeo (Yeo downstream of Over Compton)

4.2.2 Information on status and objectives for each waterbody is provided in Table 4.2 and Table 4.3.

Table 4.2: Details and objectives of WFD waterbodies

Name	Cam - Lower	Yeo - downstream of Over Compton	Cary - source to confluence with KSD
ID	GB108052015650	GB108052015682	GB108052015140
Type	River	River	River
Heavily modified or artificial	No	Yes	No
2015 overall status	Moderate	Moderate	Moderate
Objective	Good by 2027	Good by 2027	Good by 2027

Source: Information from Environment Agency Catchment Data Explorer

Table 4.3: Status of WFD waterbodies

Waterbody name & ID	Cam (Lower)	Yeo (downstream of Over Compton)	Cary (source to confluence with KSD)
	GB108052015650	GB108052015682	GB108052015140
	2016 status	2016 status	2016 status
Current Overall Status	Moderate	Moderate	Moderate
Status Objective (Overall)	Good by 2027	Good by 2027	Good by 2027
Ecological Status Objective	Good by 2027	Good by 2027	Good by 2027
Chemical Status Objective	Good by 2015	Good	Good by 2015
Ecological status			
Overall ecological status	Moderate	Moderate	Moderate
Invertebrates	High	Good	Good
Fish	Moderate	Good	Good
Macrophytes	Not assessed	Not assessed	Not assessed
Macrophytes and phytobenthos combined	Moderate	Not assessed	Moderate
Phytobenthos	Not assessed	Not assessed	Not assessed
Supporting elements (physico-chemical)			
Ammonia (PhysChem)	High	Good	High
Dissolved oxygen	High	High	Moderate
Biochemical oxygen demand	Not assessed	High	High
pH	High	High	High
Phosphate	Poor	Poor	Poor
Temperature	High	High	High
Specific Pollutants			
Copper	Not assessed	High	High
Triclosan	Not assessed	Not assessed	Not assessed
Iron	Not assessed	High	High
Zinc	Not assessed	High	Not assessed
Ammonia (Annex 8)	Not assessed	Not assessed	Not assessed
Supporting elements (hydromorphological)			
Quantity and dynamics of flow	Not assessed	Not assessed	Not assessed
Hydrological regime	High	Not assessed	Supports Good
Morphology	Supports Good	Not assessed	Supports Good
Mitigation measures assessment		Moderate or less	Moderate or less
Chemical status & supporting elements			
Overall chemical status	Good	Good	Good
Cadmium and its compounds	Does not require assessment	Does not require assessment	Good
Lead and its compounds	Does not require assessment	Good	Good
Mercury and its compounds	Not assessed	Not assessed	Good
Nickel and its compounds	Does not require assessment	Good	Good
Di (2ethylhexyl) phthalate (Priority hazardous)	Does not require assessment	Does not require assessment	Not assessed
Nonylphenol	Does not require assessment	Does not require assessment	Not assessed
Tributyltin compounds	Does not require assessment	Does not require assessment	Not assessed

Source: Information from Environment Agency Catchment Data Explorer

4.3 Protected areas

- 4.3.1 There are a number of protected areas (statutory designated areas) located within close proximity to the scheme, which are shown on the plan in appendix B. Protected areas and potential impact pathways from the scheme are described in Table 4.4.
- 4.3.2 There are a number of Local Wildlife Sites (LWS) located within close proximity to the scheme, which are shown in appendix D. Potential impact pathways from the scheme on LWS are described in Table 4.5. Some of the LWS contain designated ancient woodland flora; potential effects on these are included as part of the assessment.

Table 4.4: Protected areas located within close proximity of scheme

Protected area	Proximity to scheme	Reason for designation	Potential impact pathway
Sparkford Wood Site of Special Scientific Interest (SSSI)	<ul style="list-style-type: none"> Situated approx. 1km east of the scheme. Scheme lies within SSSI risk impact zone. 	Mixed and yew woodland	X Not hydraulically linked to the scheme, no impact pathway
Babcary Meadows SSSI	<ul style="list-style-type: none"> Situated approximately 4km north of the scheme. Scheme lies within SSSI risk impact zone. 	Neutral grassland	X Not hydraulically linked to the scheme, no impact pathway
Kingsweston Meadows SSSI	<ul style="list-style-type: none"> Situated approximately 5km north west of the scheme. Scheme lies within SSSI risk impact zone. 	Neutral grassland	X Not hydraulically linked to the scheme, no impact pathway
East Polden Grassland SSSI	<ul style="list-style-type: none"> Situated approximately 6km north west of the scheme. Scheme lies within SSSI risk impact zone. 	Calcareous grassland	X Not hydraulically linked to the scheme, no impact pathway
Hurcott Farm	<ul style="list-style-type: none"> Situated approximately 5km north west of the scheme. Scheme lies within SSSI risk impact zone. 	Earth heritage (arable farming)	X Not hydraulically linked to the scheme, no impact pathway
Somerset Levels National Nature Reserve (NNR) / Somerset Levels Ramsar & SPA / King Sedgemoor SSSI	<ul style="list-style-type: none"> Situated approximately 14km north west of the scheme (18km downstream of Park Brook and 20km downstream of Dyke Brook). 	Neutral grassland, standing open water and canals	✓ Hydraulic link to the scheme – potential impact pathway
Wet Moor SSSI / Somerset Levels SPA & Ramsar	<ul style="list-style-type: none"> Situated over 10km south west of the scheme (15.5km downstream). The Wet Moor SSSI forms part of the Somerset Levels & Moors Special Protection Area (SPA) and Ramsar site. 	Neutral grassland, rivers and streams, standing open water and canals	✓ Hydraulic link to the scheme – potential impact pathway

Table 4.5: Local wildlife sites situated within close proximity to the scheme

LWS	Proximity to scheme	Reason for designation	Potential impact pathway
Hazlegrove Park	<ul style="list-style-type: none"> LWS intersected by the eastern extents of the scheme (to the west of Sparkford) Routine run off from the eastern portion of the proposed scheme will discharge to within very close proximity to this LWS (via outfall 4), flowing through an unnamed field drain situated to the south of the Park 	Historical parkland with important assemblage of veteran trees; specialist invertebrate fauna	✓ Hydraulic link to the scheme – potential impact pathway
Yarcombe Wood	<ul style="list-style-type: none"> Located 1km north of the scheme Routine run off from the eastern portion of the proposed scheme will discharge to within very close proximity to this LWS (via outfall 4) flowing through unnamed field drain that is adjacent to the southern border of the woods 	Ancient semi-natural broadleaved woodland and pond (<i>designated ancient woodland</i>)	✓ Hydraulic link to the scheme – potential impact pathway
Camel Hill Transmitter site	<ul style="list-style-type: none"> Situated adjacent to the scheme (and existing A303 carriageway) at Camel Hill 	Unimproved calcareous grassland and semi-natural broadleaved woodland	X Not hydraulically linked to the scheme, no impact pathway
Ridge Copse	<ul style="list-style-type: none"> Situated 50m south of the scheme, adjacent to the existing A303 carriageway 	Semi-natural broadleaved woodland and quarry workings	X Not hydraulically linked to the scheme, no impact pathway
Sparkford Hill Copse	<ul style="list-style-type: none"> Located 350m southeast of the western extents of the scheme at Sparkford 	Ancient woodland (<i>designated ancient woodland</i>)	X Not hydraulically linked to the scheme, no impact pathway
Parson's Steeple	<ul style="list-style-type: none"> Located 200m north of the existing A303 carriageway, to the east of Steart Hill 	Ancient woodland site with semi-natural broadleaved woodland and mixed plantation stands	X Not hydraulically linked to the scheme, no impact pathway
Vale Farm Field	<ul style="list-style-type: none"> Located 450m north of the existing A303 carriageway, to the east of Steart Hill 	Remnants of calcareous grassland	X Not hydraulically linked to the scheme, no impact pathway
Cogberry Plantation	<ul style="list-style-type: none"> Located over 550m north of the existing A303 carriageway, to the north east of Podimore 	Ancient semi-natural broadleaved woodland (<i>designated ancient woodland</i>)	X Not hydraulically linked to the scheme, no impact pathway
Downhead Manor Farm (candidate local wildlife site cLWS)	<ul style="list-style-type: none"> Located 400m north of the existing A303 carriageway, to the north east of Podimore 	cLWS with recently identified nationally important species present. Also includes previously designated; Ancient semi-natural & semi-natural broadleaved woodland. Small quarry with herb rich calcareous grassland (<i>designated ancient woodland</i>)	X Not hydraulically linked to the scheme, no impact pathway

4.4 Identifying potential impact pathways

- 4.4.1 Potential risks to receptors (WFD water bodies and protected areas) from the scheme, which are identified though potential impact pathways are assessed in Table 4.6 (WFD waterbodies) and Table 4.7 (protected areas).
- 4.4.2 Assessment Table 4.6 corresponds to (and should be read in conjunction with) the WFD overview matrices, provided in appendix E.

Table 4.6: Potential risks to WFD waterbodies and impact pathways

Receptor	Potential impact pathway		Significance of risk to receptor – further assessment required?
<p>WFD waterbodies:</p> <ol style="list-style-type: none"> 1. Cam – Lower 2. Cary - source to confluence with KSD 3. Yeo downstream of Over Compton 	<p><i>Specific pollutants / hazardous substances (For example, zinc, copper)</i></p>	<p>Water quality within these rivers (and watercourses within their catchments) could be subject to changes as a result of particulate and dissolved constituents within highways runoff entering the drainage network. All 3 waterbodies are currently at moderate status for various reasons that can be attributed to natural and man-made causes. All waterbodies share excess phosphate levels in the water, caused by poor nutrient management (agricultural causes) sewage and industry discharge in the catchments. None of the waterbodies are in pristine condition, and all require significant improvements to reach good or high status.</p> <p>The HAWRAT assessment (appendix 13.1, Volume 6.3) confirmed that routine run off (and potential accidental spillage incidents) from the scheme, discharging into the watercourses via outfalls, will not breach environmental quality standards (focusing primarily on zinc, copper and sediment deposition) provided that the proposed pollution reduction measures are included as part of the scheme. Surface runoff / road drainage water from the scheme will be treated by a 3-stage mitigation process. This includes surface / sub surface drains, drainage ditches and wet retention ponds. This comprehensive treatment process will strip out a significant quantity of contaminants and suspended sediments within the runoff. Further details on the proposed drainage mitigation is provided in the Drainage Strategy Report (appendix 13.3, Volume 6.3).</p> <p>Although it may be possible for some limited contaminants/sediments to enter the drainage ditches adjacent to the carriageway, these would become significantly diluted and would most likely be completely removed as the runoff moves through the wet attenuation pond / field drain system by the time the waters reached ordinary watercourses / rivers.</p>	<p>Although there is a potential impact pathway present, it is considered that the comprehensive drainage mitigation measures put in place as part of the drainage strategy will ensure that the volume of contaminated runoff that reaches the waterbodies will be negligible.</p> <p>It is not anticipated that contaminants in the watercourse, post-treatment, will affect water quality to any significant extent.</p> <p>Currently, with the existing A303 carriageway, runoff (that has been treated to a much lesser extent) is already entering watercourses within the catchment. Inclusion of a comprehensive drainage system with appropriate mitigation measures as part of the scheme provides an opportunity to improve the current drainage system and may contribute to improving the status of the receiving water bodies.</p> <p>The risk of adverse impact on WFD status is considered to be negligible and no further assessment is required.</p>
	<p><i>Physico-chemical elements (For example, pH, phosphate, temperature, dissolved oxygen, ammonia)</i></p>	<p>No impact pathway present, it is not considered that routine runoff from the scheme could permanently alter the physico-chemical elements in the waterbodies.</p>	<p>No impact pathway present – no further assessment required.</p>
	<p><i>Hydromorphology (hydrological regime, morphology)</i></p>	<p>No impact pathway present, scheme is not anticipated to impact on morphology as there are no planned watercourse crossings (For example, new culverts or bridges) which could affect existing morphology conditions within the watercourses, and there are no elements of the scheme involving changes to the existing hydrological regimes.</p>	<p>No impact pathway present – no further assessment required.</p>
	<p><i>Biological elements (fish, invertebrates, macrophytes, phytobenthos)</i></p>	<p>No impact pathway present, as there are no anticipated impacts to physico-chemical, hydromorphological elements or specific pollutant/hazardous substances in waterbodies which may alter conditions/habitats within the waterbodies upon which biological elements rely. The HAWRAT assessment confirmed there would be no excess sediments from the scheme entering the drainage ditches adjacent to the carriageway which could adversely affect habitats for fish and invertebrates.</p>	<p>No impact pathway present – no further assessment required.</p>

Table 4.7: Potential risks to designated sites and impact pathways

Receptor	Potential impact pathway	Significance of risk to receptor – further assessment required?
<p>Protected areas:</p> <ol style="list-style-type: none"> 1. King's Sedgemoor SSSI 2. Somerset Levels National Nature Reserve 3. Somerset Levels and Moors Ramsar & SPA 	<p>The King's Sedgemoor SSSI and Somerset Levels National Nature Reserve are located within a component of the Somerset Levels and Moors SPA / Ramsar site. These designations are situated adjacent to the King's Sedgemoor Main Drain. This is an artificial drainage system located downstream of the River Cary, which diverts water from the river through agricultural land, originally designed to drain the peaty Somerset Moors. The area has become a vital haven for birds, fish, and other freshwater mammals.</p> <p>Routine runoff (treated with SuDs¹² mitigation measures) from the scheme will discharge via outfalls 1, 2 and 4 into unnamed field ditches, which drain into Park Brook or Dyke Brook before discharging into the River Cary.</p> <p>Although water dependent, these designations on King's Sedgemoor are located over 15km downstream of the confluence where Park Brook discharges into the River Cary, and over 17km from where Dyke Brook discharges into the River Cary. These confluences are a further 2km to 5km from the scheme itself.</p>	<p>The potential impact pathway is considered to be almost negligible as the receptor is located a considerable distance (almost 20km) downstream of the proposed scheme.</p> <p>As noted in Table 4.4, the comprehensive drainage mitigation included as part of the scheme will treat the runoff such that very low / negligible levels of contaminants are present if/when run off reach ordinary watercourses and rivers.</p> <p>It is not anticipated that contaminants could feasibly reach the designations in such quantities that any adverse impact to the designations would occur.</p> <p>The risk of adverse impact is considered to be negligible and no further assessment is required.</p>
<p>Protected areas:</p> <ol style="list-style-type: none"> 1. Wet Moor SSSI 2. Somerset Levels SPA & Ramsar 	<p>Wet Moor SSSI is a component of the Somerset Levels and Moors SPA / Ramsar, situated on / adjacent to the River Yeo. It consists of moorland that is rich in species and wildlife.</p> <p>Routine runoff (treated with SuDs mitigation measures) from the scheme will discharge into an unnamed field ditch (via outfall 3) before discharging into the River Cam.</p> <p>Although water dependent, the Wet Moor SSSI and Somerset Levels SPA/Ramsar designations are located over 11km downstream from the River Yeo / Cary confluence, which is a further 4.5km from the outfall 3.</p>	<p>Again, the potential impact pathway is considered to be almost negligible as the receptor is located a considerable distance (over 15km) downstream of the scheme, and with the comprehensive treatment of contaminants included as part of the drainage strategy, low / negligible levels of contaminants will be present.</p> <p>Therefore, it is not anticipated that contaminants could feasibly reach the SPA / Ramsar/ SSSI in such quantities that any adverse impact to the designations would occur – particularly given that only 1 of the 4 outfalls drains into the River Cary.</p> <p>The risk of adverse impact is considered to be negligible and no further assessment is required.</p>

¹² Sustainable Urban Drainage Systems (SuDs)

Receptor	Potential impact pathway	Significance of risk to receptor – further assessment required?
<p>LWS:</p> <p>1. Hazlegrove Park</p>	<p>Hazlegrove Parkland is a large LWS with important assemblage of veteran trees and specialist invertebrate fauna. Hazlegrove Parkland does not have a water dependent / wetland designation</p> <p>Routine runoff (treated with SuDs mitigation measures, including an extensive wet retention pond just south of Hazlegrove Park) from the scheme will discharge from outfall 4 into an unnamed field drain that is situated very close to the LWS. However, routine runoff will not enter the drainage ditch which flows through the outskirts of Hazlegrove Park itself. Therefore, no routine runoff will enter the LWS directly.</p> <p>Some routine runoff from the eastern extents of the scheme will enter an existing retention pond already located within the Hazlegrove LWS, but as part of the new drainage design, discharge from this pond will be piped underground into a field drain outside of the LWS, into the unnamed field drain receiving discharge from outfall 4.</p>	<p>The potential impact pathway between the scheme and Hazlegrove Park is considered to be close to negligible. Routine runoff discharging via outfall 4 (in which contaminants will be comprehensively treated with SuDs mitigation), will not enter the LWS itself.</p> <p>Routine runoff will be within close proximity to the receptor, but it is not considered that contaminants could feasibly impact on the LWS.</p> <p>The risk of adverse impact is considered to be negligible and no further assessment is required.</p>
<p>LWS:</p> <p>2. Yarcombe Wood</p>	<p>Yarcombe Wood is a small LWS with ancient semi-natural broadleaved woodland and a pond. Yarcombe Wood does not have a water dependent / wetland designation.</p> <p>Routine runoff (treated with SuDs mitigation measures, including an extensive wet retention pond just south of Hazlegrove Park) from the scheme will discharge from outfall 4 into an unnamed field drain that flows along the southern border of Yarcombe Wood.</p> <p>Yarcombe wood is located over 1km downstream of where routine runoff will discharge from outfall 4.</p>	<p>The potential impact pathway between the scheme and Yarcombe Wood is considered to be close to negligible, because the field ditch (containing SuDS treated runoff from outfall 4) runs along the southern border of the woodland, not directly within it, and because the woodland is not water dependent.</p> <p>Following the comprehensive treatment of contaminants with SuDS mitigation included as part of the drainage strategy, it is expected that very low / negligible levels of contaminants would be present in runoff adjacent to the woodland, therefore it is not considered that contaminants could feasibly impact on the LWS.</p> <p>The risk of adverse impact is considered to be negligible and no further assessment is required.</p>

5 Outcomes and conclusions

5.1 Assessment outcomes

- 5.1.1 In accordance with Advice Note 18¹³, Stage 1 and Stage 2 of the 3-stage approach to Water Framework Directive (WFD) assessment have been completed for the scheme.
- 5.1.2 The Stage 1 screening assessment found potential impact pathways between the scheme and 3 WFD waterbodies, the Rivers Cam – Lower; Cary - source to confluence with KSD and the Yeo downstream of Over Compton. These potential impact pathways would be from 4 proposed outfalls, from which routine runoff or accidental spillages could discharge into adjacent ditches, which drain into ordinary watercourses and then into the WFD waterbodies. It is acknowledged that these waterbodies currently have moderate water quality status, primarily due to poor nutrient management (a product of poor agriculture/rural land management) and sewage and industry discharge in the catchments.
- 5.1.3 The Stage 2 scoping assessment concluded that, despite the presence of potential impact pathways, the comprehensive drainage mitigation measures (comprising a multi-stage contaminant/sediment treatment process) put in place as part of the drainage strategy would ensure that the level of contaminated runoff that reaches the waterbodies will be negligible. It is not anticipated that contaminants in the watercourse, post-treatment, would affect water quality to any significant extent, and therefore the scheme is considered to present a very low risk to WFD status / objectives.
- 5.1.4 In addition to WFD waterbodies, potential impact pathways have been identified between the scheme and a number of statutory designated sites, including the Somerset Levels and Moors Special Protection Area (SPA) / Ramsar, King's Sedgemoor Site of Special Scientific Interest (SSSI), Wet Moor SSSI; and the Somerset Levels National Nature Reserve (NNR). However, given the significant distance along the drainage network to these designations (at least 15 kilometres) and the proposed mitigation that would be incorporated into the drainage design for the scheme, it is not anticipated that contaminants could feasibly reach the designations in such quantities that any adverse impacts to the designations would occur.
- 5.1.5 Potential impact pathways have also been identified between the scheme and 2 non-statutory LWS: Hazlegrove Park and Yarcombe Wood. However, neither of

¹³The Planning Inspectorate (2017) Advice note eighteen: The Water Framework Directive [online] available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2017/06/advice_note_18.pdf (last accessed March 2018).

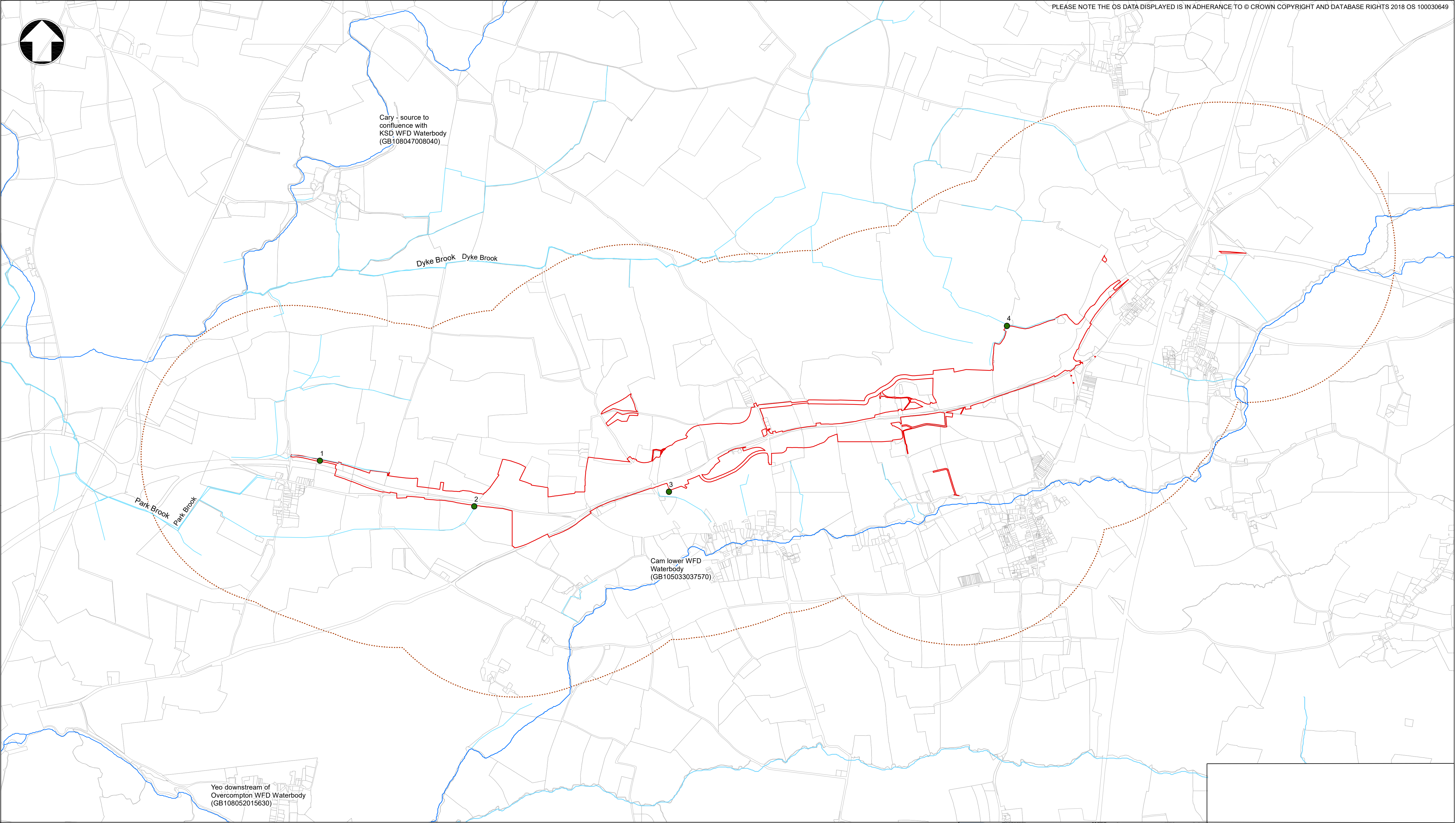
these sites were considered to be at risk from contaminants in routine runoff from the scheme.

- 5.1.6 The drainage mitigation measures/treatment procedures will play a vital part in ensuring that the scheme will not cause any deterioration to the WFD status, or prevent improvements to the waterbodies identified, or present any risk to the protected areas located downstream. Without this level of comprehensive mitigation included in the scheme design, the scheme would present a risk to WFD status / objectives of the waterbodies identified.

5.2 Conclusions

- 5.2.1 Stage 1 and Stage 2 of the WFD assessment has concluded that the potential impact pathways present are very low risk, and the scheme is very unlikely to affect the WFD status or cause any deterioration of the waterbodies identified. As such, all waterbodies identified have been scoped out from further assessment.
- 5.2.2 It is not considered that a detailed impact assessment (Stage 3 WFD impact assessment) is required.

Appendix A: Proposed red line boundary and planned outfalls in relation to surrounding watercourses and Water Framework Directive waterbodies



KEY

- PROPOSED RED LINE BOUNDARY
- 1KM ZONE OF INFLUENCE
- DRAINS AND BROOKS
- WATERBODIES

PLANNED OUTFALLS

- 1. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 2. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 3. UNNAMED WATERCOURSE, DRAINING INTO RIVER CAM
- 4. UNNAMED WATERCOURSE, DRAINING INTO DYKE BROOK

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Project Title
A303 SPARKFORD TO ILCHESTER DUALLING

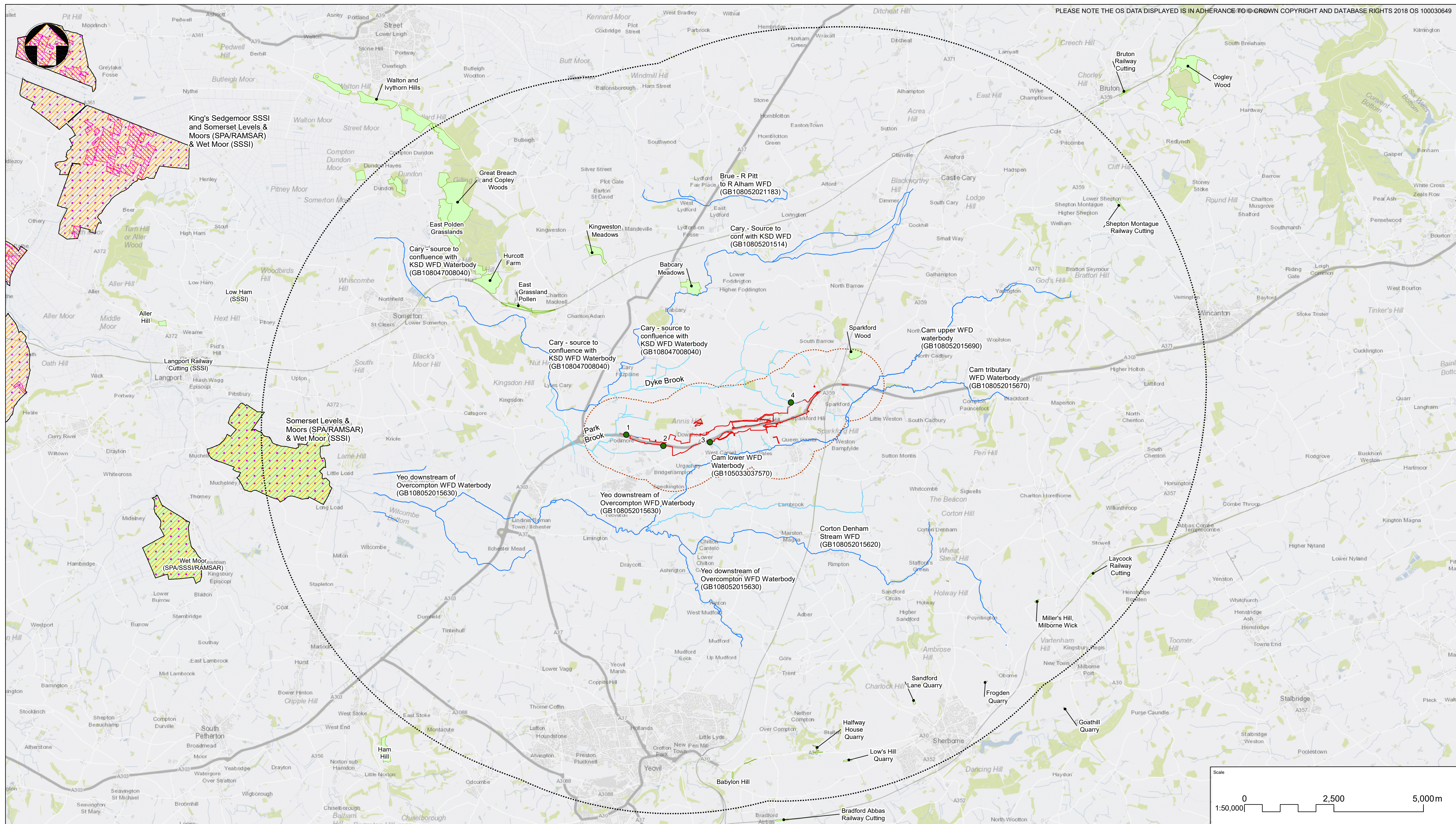
Drawing Title
GROUNDWATER BODIES AND AQUIFER DESIGNATIONS CONSIDERED WITHIN THE WATER FRAMEWORK DIRECTIVE ASSESSMENT

Drawing Status
Published - DEFINITION

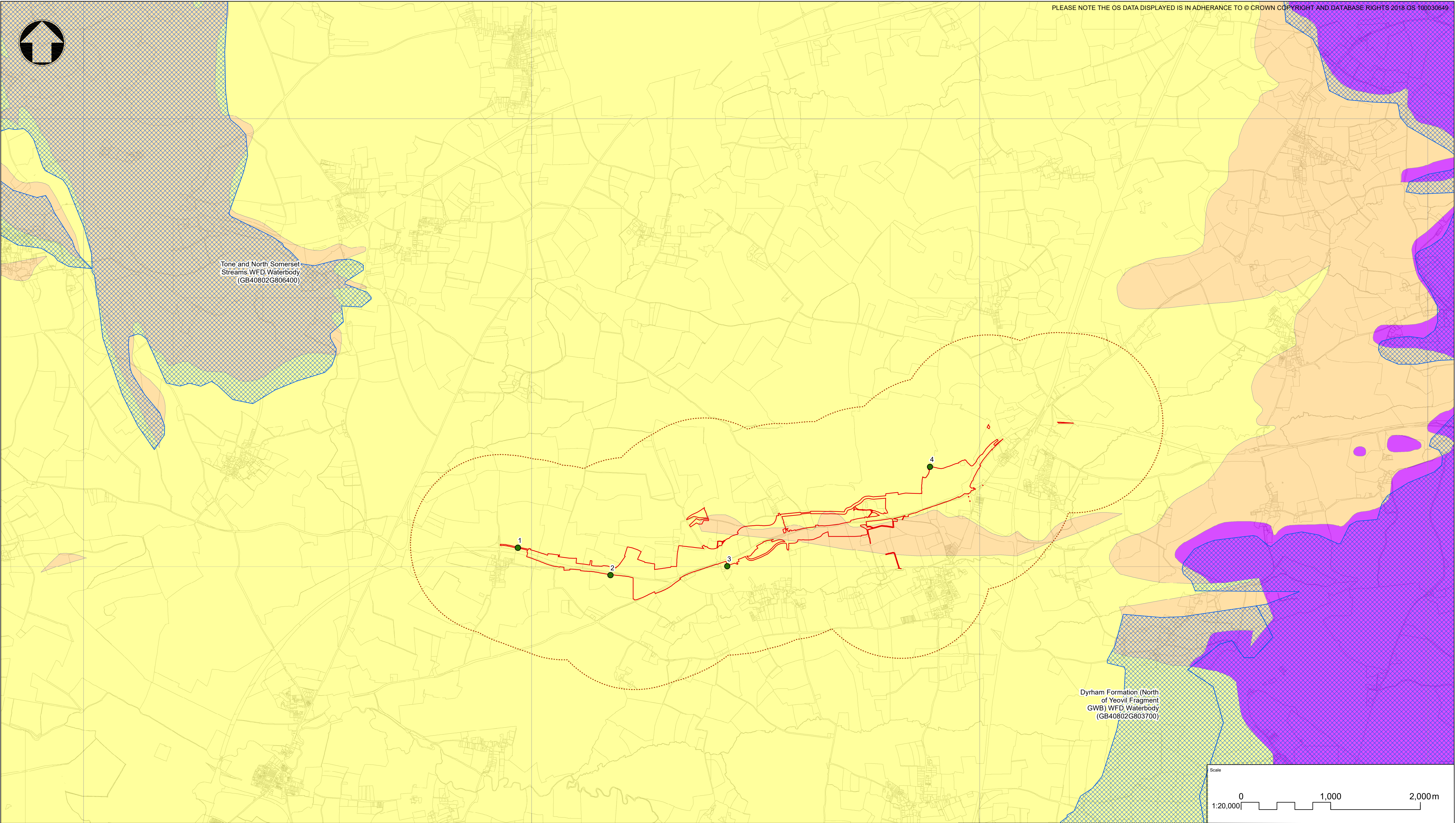
Suitability
A3

Scale	NTS	Designed	ER	Drawn	ER	Checked	BM	Approved	ER
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Drawing Number	HE PIN	Originator	Volume			Project Ref. No.			
HE551507 - MMSJV - EWE		000			DL LW 0006			389107	
REV.		DATE	AMENDMENT DETAILS		ORIG	CHK'D	APP'D	Revision	
C01	JULY 2018	DCO SUBMISSION		ER	BM	ER	-	C01	

Appendix B: Water bodies and statutory wildlife designations considered within the Water Framework Directive assessment



Appendix C: Groundwater bodies and aquifers considered within the Water Framework Directive assessment



KEY

— PROPOSED RED LINE BOUNDARY

1KM ZONE OF INFLUENCE

WFD GROUND WATERBODIES

PLANNED OUTFALLS

- 1. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 2. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 3. UNNAMED WATERCOURSE, DRAINING INTO RIVER CAM
- 4. UNNAMED WATERCOURSE, DRAINING INTO DYKE BROOK

AQUIFER DESIGNATIONS - BEDROCK

- PRINCIPAL
- SECONDARY A
- SECONDARY B
- SECONDARY (UNDIFFERENTIATED)
- UNPRODUCTIVE

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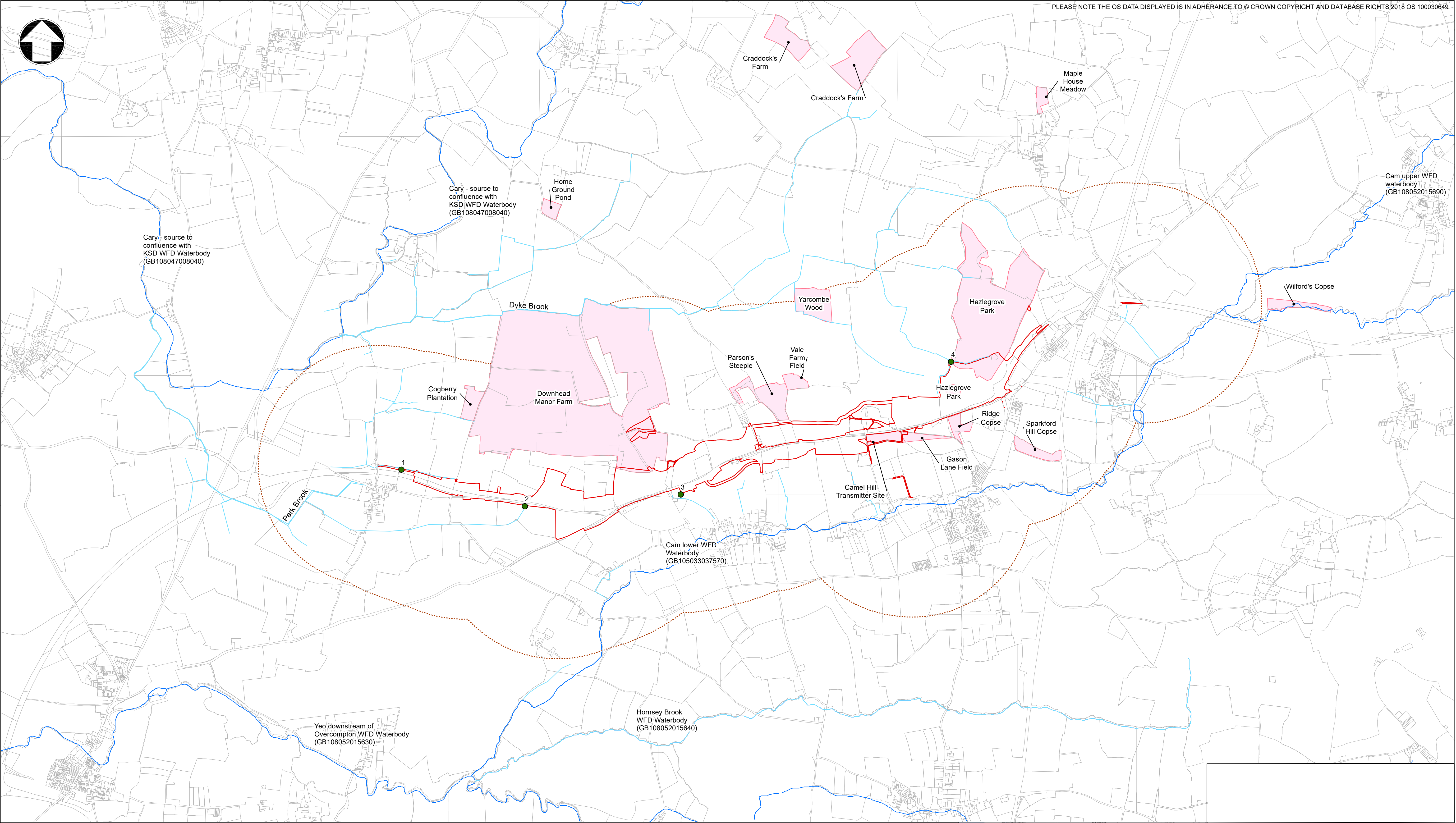
GROUNDWATER BODIES AND AQUIFER DESIGNATIONS CONSIDERED WITHIN THE WATER FRAMEWORK DIRECTIVE ASSESSMENT

Published - DEFINITION

A3

Scale	AS SHOWN	Designed	ER	Drawn	ER	Checked	BM	Approved	ER
Original Size	A1	Date	JULY 2018	Date	JULY 2018	Date	JULY 2018	Date	JULY 2018
Drawing Number	HE PIN	Originator	MMSJV	Volume	EWE	Project Ref. No.			389107
C01	JULY 2018	DCO SUBMISSION	ER	BM	ER	Revision			C01
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D	Location			Type Role Number

Appendix D: Red line boundary and planned outfalls in relation to surrounding Local Wildlife Sites and Water Framework Directive waterbodies



KEY

- PROPOSED RED LINE BOUNDARY
- 1KM ZONE OF INFLUENCE
- DRAINS AND BROOKS
- WATERBODIES
- LOCAL WILDLIFE SITES

PLANNED OUTFALLS

- 1. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 2. UNNAMED WATERCOURSE, DRAINING INTO PARK BROOK
- 3. UNNAMED WATERCOURSE, DRAINING INTO RIVER CAM
- 4. UNNAMED WATERCOURSE, DRAINING INTO DYKE BROOK

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RED LINE BOUNDARY AND PLANNED OUTFALLS IN RELATION TO SURROUNDING LOCAL WILDLIFE SITES AND WATER FRAMEWORK DIRECTIVE WATERBODIES

Published - Definition					Suitability A3
Scale NTS	Designed ER	Drawn ER	Checked BM	Approved ER	
Original Size A1	Date JULY 2018	Date JULY 2018	Date JULY 2018	Date JULY 2018	
Drawing Number HE PN	Originator MMSJV		Volume EWE		Project Ref. No. 389107
C01	JULY 2018	DCO SUBMISSION	ER	BM	ER
REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D

Location: 000 - DL - LW - 0008

Type: Role: Number: C01

Appendix E: WFD Overview Matrices (Section A completed)

WFD Overview Matrices (Section A completed)**(A) WFD Screening Matrices**

Name of NSIP	A303 Sparkford to Ilchester Dualling	Date	April 2018
Project Reference	HE551507-MMSJV-EWE-000-RP-LW-0012		

Table A.1: Summary table of WFD waterbodies considered at the WFD Screening stage

Waterbody ID	Name of waterbody	Stage of assessment reached Screening / WFD Assessment
<i>South West River Basin Management Plan</i>		
GB108052015140	River Cary (Cary - source to confluence with KSD)	<i>Screened in (stage 2)</i>
GB108052021150	King Sedgemoor Drain (Henley sluice to mouth)	<i>Screened out (stage 1)</i>
GB108052015650	River Cam (Cam - Lower)	<i>Screened in (stage 2)</i>
GB108052015682	River Yeo (Yeo downstream of Over Compton)	<i>Screened in (stage 2)</i>
GB108052015640	Hornsey Brook	<i>Screened out (stage 1)</i>
GB108052015690	Cam Upper	<i>Screened out (stage 1)</i>
GB108052015670	Cam tributary	<i>Screened out (stage 1)</i>
GB40802G806400	Tone and Somerset north streams	<i>Screened out (stage 1)</i>
GB40802G803700	Dyrham Formation – north of Yeovil Fragmented	<i>Screened out (stage 1)</i>

Table A.2: WFD Screening Summary Table

Waterbody ID	Waterbody	Element	Screened in/out for WFD Assessment
GB108052015140	River Cary (Cary - source to confluence with KSD)	Specific pollutants / hazardous substances (for example, zinc, copper)	Out – despite the presence of an impact pathway, the comprehensive drainage mitigation to be put in place will ensure the volume of contaminated run off (containing specific pollutants for example, zinc, copper) reaching the watercourses will be negligible. Although it may be possible for contaminants to enter the drainage ditches adjacent to the carriageway, these would become significantly diluted and would most likely be completely removed as the runoff moves through the wet attenuation pond / field drain system. The HAWRAT Assessment (Appendix 13.1 Volume 6.3) confirms that routine runoff and/or any accidental spillage incidences that occur will not breach environmental quality standards because of the comprehensive drainage mitigation system that is planned.
		Physico-chemical elements (pH, phosphate, temperature, dissolved oxygen)	Out – no impact pathway present, it is not considered that routine runoff from the scheme could affect physico-chemical elements in the waterbodies.
		Hydromorphology (hydrological regime, morphology)	Out – no impact pathway present, scheme is not anticipated to impact on hydromorphology as there are no planned watercourse crossings (For example, new culverts or bridges) which could affect existing morphology conditions within the watercourses, and there are no elements of the scheme which could affect the existing hydrological regimes.
		Biological elements (fish, invertebrates, macrophytes, phytobenthos)	Out – no impact pathway present, as there are no anticipated impacts to physico-chemical, hydromorphological elements or specific pollutant/hazardous substances in waterbodies which may alter conditions/habitats within the waterbodies upon which biological elements rely. The HAWRAT assessment confirmed there would be no excess sediments from the scheme entering the drainage ditches adjacent to the carriageway which could adversely affect habitats for fish and invertebrates.
GB108052015650	River Cam (Cam - Lower)	Specific pollutants / hazardous substances (for example, zinc, copper)	Out – despite the presence of an impact pathway, the comprehensive drainage mitigation to be put in place will ensure the volume of contaminated run off (containing specific pollutants for example, zinc, copper) reaching the watercourses will be negligible. Although it may be possible for contaminants

Waterbody ID	Waterbody	Element	Screened in/out for WFD Assessment
			<p>to enter the drainage ditches adjacent to the carriageway, these would become significantly diluted and would most likely be completely removed as the runoff moves through the wet attenuation pond / field drain system.</p> <p>The HAWRAT Assessment (Appendix 13.1 Volume 6.3) confirms that routine runoff and/or any accidental spillage incidences that occur will not breach environmental quality standards because of the comprehensive drainage mitigation system that is planned.</p>
		Physico-chemical elements (pH, phosphate, temperature, dissolved oxygen)	Out – no impact pathway present, it is not considered that routine runoff from the scheme could affect physico-chemical elements in the waterbodies.
		Hydromorphology (hydrological regime, morphology)	Out – no impact pathway present, scheme is not anticipated to impact on hydromorphology as there are no planned watercourse crossings (For example, new culverts or bridges) which could affect existing morphology conditions within the watercourses, and there are no elements of the scheme which could affect the existing hydrological regimes.
		Biological elements (fish, invertebrates, macrophytes, phytobenthos)	Out – no impact pathway present, as there are no anticipated impacts to physico-chemical, hydromorphological elements or specific pollutant/hazardous substances in waterbodies which may alter conditions/habitats within the waterbodies upon which biological elements rely. The HAWRAT assessment confirmed there would be no excess sediments from the scheme entering the drainage ditches adjacent to the carriageway which could adversely affect habitats for fish and invertebrates.
GB108052015682	River Yeo (Yeo downstream of Over Compton)	Specific pollutants / hazardous substances (For example, zinc, copper)	Out – despite the presence of an impact pathway, the comprehensive drainage mitigation to be put in place will ensure the volume of contaminated run off (containing specific pollutants for example, zinc, copper) reaching the watercourses will be negligible. Although it may be possible for contaminants to enter the drainage ditches adjacent to the carriageway, these would become significantly diluted and would most likely be completely removed as the runoff moves through the wet attenuation pond / field drain system. The HAWRAT Assessment (Appendix 13.1 Volume 6.3) confirms that routine runoff and/or any accidental spillage incidences that occur will not breach

Waterbody ID	Waterbody	Element	Screened in/out for WFD Assessment
			<i>environmental quality standards because of the comprehensive drainage mitigation system that is planned.</i>
		<i>Physico-chemical elements (pH, phosphate, temperature, dissolved oxygen)</i>	Out – no impact pathway present, it is not considered that routine runoff from the scheme could affect physico-chemical elements in the waterbodies.
		<i>Hydromorphology (hydrological regime, morphology)</i>	Out – no impact pathway present, scheme is not anticipated to impact on hydromorphology as there are no planned watercourse crossings (For example, new culverts or bridges) which could affect existing morphology conditions within the watercourses, and there are no elements of the scheme which could affect the existing hydrological regimes.
		<i>Biological elements (fish, invertebrates, macrophytes, phytobenthos)</i>	Out – no impact pathway present, as there are no anticipated impacts to physico-chemical, hydromorphological elements or specific pollutant/hazardous substances in waterbodies which may alter conditions/habitats within the waterbodies upon which biological elements rely. The HAWRAT assessment confirmed there would be no excess sediments from the scheme entering the drainage ditches adjacent to the carriageway which could adversely affect habitats for fish and invertebrates.

Summary of WFD screening consultation

Consultee	Summary of discussion	Reference (to consultation evidence provided in ES / WFD Report / SoCG)
NRW EA	The outcomes of the water environment assessment (WFD Screening and Scoping Report and HAWRAT assessment) were shared with the Environment Agency, who gave notice that they accepted the approach to assessment and concurred that it is unlikely the scheme would affect the WFD status of waterbodies identified. The Environment Agency further agreed that any potential impact pathways can be mitigated by measures outlined in the HAWRAT assessment. They also agreed that a Stage 3 full WFD impact assessment is not required for the scheme.	Supporting letter (consultation response) from the Environment Agency is contained within Appendix A of Appendix 4.3 Road Drainage and the Water Environment Assessment Summary, Volume 6.3. A Statement of Common GF

(B) WFD Assessment Matrices (*not completed for this scheme*)

Name of NSIP		Date	
Project Reference			

Table B.1: Summary table of WFD waterbodies considered at the WFD Assessment stage

Waterbody ID	Name of waterbody	Deterioration concluded?
	[List relevant waterbody here]	Yes/No deterioration

Table B.2: WFD Assessment Detailed Tables (*one per waterbody screened in to a WFD assessment*)

Waterbody name	
Waterbody ID	
Location relative to Proposed Development	
Type	<i>For example, Surface water (includes transitional and coastal) / Groundwater</i>
Surface waterbody category	<i>For example, River, Stream, Canal / Lake, Reservoir / Transitional / Coastal / Not Applicable</i>
Heavily Modified waterbody	Yes/No
Artificial waterbody	Yes/No
Element screened in to further assessment	Summary of conclusion and reference
<i>Insert relevant element here for example, Hydromorphology</i>	<i>Deterioration predicted/No deterioration predicted [insert specific reference to info in WFD Assessment report/ES]</i>
<i>For example, Biology – fish</i>	<i>Deterioration predicted/No deterioration predicted [insert specific reference to info in WFD Assessment report/ES]</i>

<i>For example, For example, Biology - habitats</i>	<i>Deterioration predicted/No deterioration predicted [insert specific reference to info in WFD Assessment report/ES]</i>
Cumulative Impact Assessment	
<i>Summarise the conclusion of the cumulative impact assessment [insert specific reference to info in WFD Assessment report/ES]</i>	
Measures Assessment	
<i>Insert a summary description of the mitigation/enhancement measures incorporated/proposed/possible within the proposed development DCO order limits [insert specific reference to info in WFD Assessment report/ES and also to where these measures are secured (for example, in the DCO)]</i>	
Conclusion	
<i>Possibility of deterioration? Prevention of Water Body/ies or Protected Area from reaching objectives? If so, for which elements? Summarise conclusion [include specific reference to the information in the WFD assessment report / relevant section of the ES]</i>	
Article 4.7 derogation required?*	Yes/No

* In the event of degradation or impeding the ability to achieve 'good' status the derogation tests will need to be considered.

Summary of WFD assessment consultation

Consultee	Summary of discussion	Reference to status of agreement (to consultation evidence provided in ES / WFD Report / SoCG)
NRW / EA		