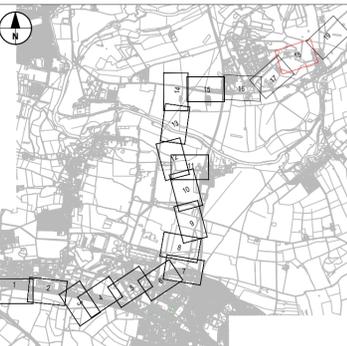




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2. THE RED LINE BOUNDARY SHOWN IS BASED ON DRAWING GEN-ACM-HGN-HIF1_ZZ_ZZ_ZZ-DR-CH-0001-P17
3. THE LANDSCAPE DESIGN LAYOUT IS BASED ON THE LATEST GENERAL ARRANGEMENT HIGHWAY LAYOUTS AS FOLLOWS:
 - A4130 WIDENING, HANDOVER REVISION P07
 - SCIENCE BRIDGE, HANDOVER REVISION P08
 - RIVER CROSSING, HANDOVER REVISION P08
 - CLIFTON BYPASS, HANDOVER REVISION P09
4. THE PROPOSED LANDSCAPE DESIGN LAYOUTS TAKE INTO ACCOUNT THE EXISTING UTILITIES. UTILITIES DIVERSION AND REROUTING MIGHT IMPACT THE FINAL LANDSCAPE DESIGN LAYOUTS.
5. FOR INFORMATION ON EXISTING VEGETATION PLEASE REFER TO THE DRAFT ARBORICULTURIST IMPACT ASSESSMENT (AIA) GEN_PD-ACM-ELS-SW_ZZ_ZZ_ZZ-RP-AB-0002



REVISION DETAILS			
By	Check	Date	Suffix
JG	MAL	17/06/21	P01
JG	MAL	25/08/21	P02
JG	MAL	13/09/21	P03

Purpose of issue
FOR APPROVAL

Client
County Hall
New Road
Oxford
OX1 1ND
OXFORDSHIRE COUNTY COUNCIL

Project Title
DIDCOT GARDEN TOWN HOUSING INFRASTRUCTURE FUND (HIF 1)

Drawing Title
FIGURE 8.72R PRELIMINARY LANDSCAPE MASTERPLAN SHEET 18 OF 19

Designed TRB	Drawn JG	Checked MAL	Approved AGB	Date 13/09/21
Internal Project No. 60632497	Suitability S4	Discipline Landscape and Visual		

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Work Package ID	Volume	Type	Number	Rev
GEN_PD-ACM-ELS-DGT_ZZ_ZZ_ZZDR-LV-0018	1	Location	1	P03

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KEY

	LE1.1 AMENITY GRASS		LE6.4 MARSH AND WET GRASSLAND
	LE1.2 GRASS WITH BULBS		SPECIES RICH GRASS WITH INTERMITTENT TREES
	LE1.3 SPECIES RICH GRASS		HAWTHORN PLANTING
	LE2.1 WOODLAND		POND
	LE2.2 WOODLAND EDGE/SCRUB		RETAINED VEGETATION
	LE2.4 LINEAR BELT OF SHRUBS AND TREES		GROUNDCOVER/ SHRUBS
	LE3.2 ORNAMENTAL SHRUBS		RIPARIAN PLANTING
	LE4.4 NATIVE SPECIES HEDGEROW WITH TREES		GRASSCRETE
	LE5.1 INDIVIDUAL TREE		LIGHTING COLUMN

INDICATIVE LOCATION OF ACOUSTIC BARRIER

Plot Date: 13 September 2021 16:02:00
File Name: C:\P\WORKING\AECOM_DSG2_MK-CLT\TOSH\GEORGE\@AECOM\COM\0013060\GEN_PD-ACM-ELS-GEN_ZZ_ZZ_ZZ-DR-LV-0018

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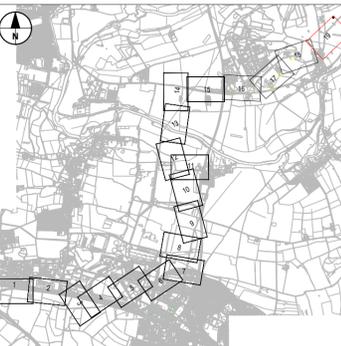
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REFER TO SHEET 18 FOR CONTINUATION

SCHEME EXTENTS



REVISION DETAILS	By	Date	Suffix
FIRST REVISION	JG	17/06/21	P01
	MAL		
SECOND REVISION	JG	25/08/21	P02
	MAL		
THIRD VERSION	JG	13/09/21	P03
	MAL		

Purpose of issue
FOR APPROVAL

Client
OXFORDSHIRE COUNTY COUNCIL

Project Title
DIDCOT GARDEN TOWN HOUSING INFRASTRUCTURE FUND (HIF 1)

Drawing Title
FIGURE 8.72S PRELIMINARY LANDSCAPE MASTERPLAN SHEET 19 OF 19

Designed TRB	Drawn JG	Checked MAL	Approved AGB	Date 13/09/21
Internal Project No. 60632497	Suitability S4	Discipline Landscape and Visual		

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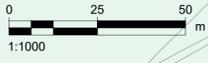
Drawing Number	Volume	Type	Number	Rev
GEN_PD-ACM-ELS-DGT_ZZ_ZZ_ZZDR-LV-0019				P03
Originator	Location	Role		

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- KEY**
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- HAWTHORN PLANTING
- POND
- RETAINED VEGETATION
- GROUNDCOVER/ SHRUBS
- RIPARIAN PLANTING
- GRASSCRETE
- LIGHTING COLUMN

INDICATIVE LOCATION OF ACOUSTIC BARRIER



Plot Date: 13 September 2021 16:15:47
 File Name: C:\P\WORKING\AECOM_DS02_MK-CLT\051 GEORGE1@AECOM.COM\00130610\GEN_PD-ACM-ELS-GEN_ZZ_ZZ_ZZ-DR-LV-0019

Appendix C Strategic Significance Policy

Plan	Policy
Biodiversity and Planning in Oxfordshire	<p>Legal protection for the following biodiversity features varies, but all are protected through the planning system:</p> <p>Local Wildlife Sites (LWS) Local Geological Sites (LGS) Irreplaceable Habitats (e.g. Ancient Woodland) Veteran trees Priority Habitats and Priority Species Grasslands (<i>Lowland meadows, Lowland calcareous grassland and Lowland heathland</i>), Woodlands (<i>Lowland wood pasture & parkland, Lowland beech and yew woodland; Lowland Mixed Deciduous Woodland; wet woodland; traditional orchards</i>), Wetlands and others such as hedgerows and arable field margins</p>
Oxfordshire Plan 2050 – Securing Nature’s Benefits	<p>Potential considerations for the Oxfordshire Plan 2050 include:</p> <p><i>‘Protect, enhance, expand and link key wildlife areas to achieve a measurable net gain in biodiversity and other environmental services, avoiding further fragmentation’</i></p> <p><i>‘Deliver new and enhanced green infrastructure assets to meet the needs of the expanding population in locations and ways that deliver multiple benefits, including for biodiversity, flood risk, air quality and climate change’</i></p>
Oxfordshire Biodiversity Action Plan (Wild Oxfordshire)	<p>Habitats that are present on site and are included within the Oxfordshire Plan include:</p> <p><i>Ponds:</i> found throughout Oxfordshire, may be rich in plants and invertebrates. Likely to be breeding sites for amphibians, including great crested newt. Sensitive to changes in hydrology and nutrient status.</p> <p><i>Reedbeds:</i> of restricted distribution in Oxfordshire, important for birds, may support water voles or rare plants. Sensitive to changes in hydrology.</p> <p><i>Rivers:</i> found throughout Oxfordshire, provide important wildlife corridors. Likely to support water vole, otter, and a variety of invertebrates.</p> <p><i>Lowland Mixed Deciduous Woodland:</i> found across Oxfordshire, those with rich ground flora are of particular biodiversity interest. Also important for bats, woodland birds and butterflies, occasionally support dormice.</p> <p><i>Hedgerows:</i> an important linking habitat found throughout Oxfordshire, of particular biodiversity value when they consist of a large proportion of native woody species, used by foraging birds and bats, dormice and a range of invertebrates. (Subject to the Hedgerow Regulations 1997).</p>
VoWHD Local Plan 2031 Part 1	<p>Strategic Objective (SO): Protecting the environment and responding to climate change</p> <p>SO10: Maintain and improve the natural environment including biodiversity, landscape, Green Infrastructure and waterways.</p> <p>Core Policy 44: Landscape – The key features that contribute to the nature and quality of the Vale of White Horse District’s landscape will be protected from harmful development and where possible enhanced, in particular, features such as trees, hedgerows, woodland, field boundaries, watercourses and waterbodies</p>

Plan	Policy
	<p>Core Policy 45: Green Infrastructure – a net gain in green infrastructure including biodiversity will be sought either through on-site provision or off-site contributions and targeted use of other funding sources</p> <p>Core Policy 46: Conservation and Improvement of Biodiversity – which seeks to protect and enhance biodiversity across the district.</p>
<p>SODC Local Plan 2035</p>	<p>Chapter 7: Natural and Historic Environment</p> <p>Policy ENV1: Landscape and Countryside - South Oxfordshire’s landscape, countryside and rural areas will be protected against harmful development. Development will only be permitted where it protects and, where possible enhances, features that contribute to the nature and quality of South Oxfordshire’s landscapes, in particular: i) trees (including individual trees, groups of trees and woodlands), hedgerows and field boundaries; ii) irreplaceable habitats such as ancient woodland and aged or veteran trees found outside ancient woodland; iii) the landscapes, waterscapes, cultural heritage and user enjoyment of the River Thames, its tributaries and flood plains; iv) other watercourse and water bodies.</p> <p>It also states that “The Council will seek the retention of important hedgerows. Where retention is not possible and a proposal seeks the removal of a hedgerow, the Council will require compensatory planting with a mixture of native hedgerow species.”</p> <p>Policy ENV3: Biodiversity</p> <p>South Oxfordshire supports a rich variety of natural habitats and species. Many of these habitats are of national and international significance. These include: Special Areas of Conservation (SAC), Site of Special Scientific Interest (SSSI), confirmed or proposed Local Wildlife Sites, Local Nature Reserves, Local Geological Sites.</p> <p>In addition, there are numerous other important natural habitats, which are priority habitats of principal importance for the purpose of conserving biodiversity (under Section 41 of the Natural Environment and Rural Communities Act)</p> <p>Policy ENV4: Watercourses</p> <p>“Watercourses are vital to biodiversity, provide a unique range of habitats, act as wildlife corridors, and form an important element of South Oxfordshire’s ecological network. They make a significant contribution towards the character of our landscape and form an important part of Green Infrastructure. They provide vital ecosystem services, help improve water quality, provide drainage and flood management and provide green space for informal recreation. Of specific note are South Oxfordshire’s globally rare chalk streams which support special wildlife habitats and species”</p>

Appendix D Condition Assessment Rationale

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
Urban - Developed land; sealed surface	No assessment required; condition is pre-set.	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Urban habitat type	Pre-set	N/A - Other
Grassland – other neutral grassland	Criteria met – Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed; cover of bracken less than 20% and cover of scrub (including bramble) less than 5%; There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of the total area. Total: 3/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Grassland Habitat Type (low distinctiveness)	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Grassland - Modified grassland	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed; Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Grassland Habitat Type (low distinctiveness)	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	should be classified as the relevant scrub habitat type; Cover of bracken less than 20%. Total: 3/7				
Cropland - Cereal crops	No assessment required; condition is pre-set.	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Pre-set	Pre-set	N/A – Agricultural
Heathland and scrub – Mixed scrub	Criteria met - There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total: 1/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Scrub Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Heathland and scrub – Mixed scrub	Criteria met – There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs; The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s); There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total: 3/5	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Scrub Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Sparsely vegetated land - Ruderal/ephemeral	Criteria met - There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. Total 1/3	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Urban Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
Wetland - Reedbeds	Criteria met – Cover of bare ground less than %; There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover. Total – 2/6	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Wetland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Woodland and forest - Lowland mixed deciduous woodland	Age distribution of trees (2); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Five or more native tree or shrub species found across woodland parcel (3); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (2); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); No nutrient enrichment or damaged ground (3). Total 26/39	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Moderate
Woodland and forest - Other woodland; broad-leaved	Age distribution of trees (1); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Three to four native tree or shrub species found across woodland parcel (2); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (1); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground (1). Total 21/39				
Woodland and forest - Other woodland; mixed	Age distribution of trees (1); Wild, domestic and feral herbivore damage (2); No invasive species present in woodland (3); Three to four native tree or shrub species found across woodland parcel (2); 50-80% of canopy trees and 50-80% of understory shrubs are native (2); Open space within woodland (2); Woodland regeneration (1); Tree health (no evidence, assumed 2); No recognisable NVC community (1); Woodland vertical structure (no evidence, assumed 2); No Veteran trees present (1); Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps (1); More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground (1). Total 21/39	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Woodland Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Poor
Native Species Rich Hedgerow with trees/ Native Species Rich Hedgerow/ Native Hedgerow	Limited evidence for assessment, with this information recorded: Dominant species recorded within the hedgerows included blackthorn (<i>Prunus spinosa</i>) and hawthorn (<i>Crataegus mongyna</i>) with frequent field maple (<i>Acer campestre</i>), bramble (<i>Rubus fruticosus</i> agg.) and occasional sycamore (<i>Acer pseudoplatanus</i>), and rose (<i>Rosa</i> sp.).	Phase 1 habitat survey undertaken by AECOM in 2019 and 2020.	Hedgerow Habitat Type	Biodiversity Metric 3.0 condition criteria and assessor professional judgement	Good to poor

Habitat type	Habitat condition assessment	Survey data reference	Habitat condition sheet	Assessment	Assigned condition
	<p>Intact species rich hedgerows with trees were also recorded. Mature tree species recorded included frequent, oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>), and occasional white poplar (<i>Populus alba</i>). Assumed species rich hedgerows with trees good condition on a precautionary basis; Intact species rich hedgerows moderate condition on a precautionary basis and species poor hedgerows poor condition.</p>				

Appendix E Habitat Classification

Habitat classification conversion

Phase 1 habitat classification	UK Habitat Classification
Hardstanding	Urban - Developed land; sealed surface
Buildings	Urban - Developed land; sealed surface
Bareground	Urban – Vacant/ derelict/bareground
Cultivated/disturbed land - amenity	Grassland - Modified grassland
Cultivated/disturbed land - arable	Cropland - Cereal crops
Improved grassland	Grassland - Modified grassland
Grassland -semi improved	Grassland – other neutral grassland
Other tall herb and fern - ruderal	Sparsely vegetated land - Ruderal/ephemeral
Broadleaved woodland - semi natural	Woodland and forest - Lowland mixed deciduous woodland
Mixed woodland - plantation	Woodland and forest - Other woodland; mixed
Scrub - scattered	Heathland and shrub - mixed scrub
Broadleaved parkland/scattered trees	Line of trees
Hedge with trees - native species-rich	Native Species Rich Hedgerow with trees
Hedge with trees – species poor	Native Hedgerow with trees
Intact hedge – species poor	Native Hedgerow
Dry ditch	Ditches
Broadleaved parkland/scattered tree	Urban Tree
Marsh/Marshy Background	Other improved grassland
Standing Water	Lakes – Ponds (Non- Priority Habitat)
Standing Water	Lakes - Ponds (Priority Habitat)
Swamp	Wetland - Reedbeds
Running Water	Rivers

Appendix F Habitat Management Required to Achieve Target Condition

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Grassland – Modified grassland	Created	Poor	1	Grassland Habitat Types	Target condition is 'Poor' in one year. This will require the area to be seeded with an amenity grassland seed mix following ground preparation and regularly cut for amenity and security purposes.	Plant an appropriate seed mix. Manage as amenity grassland.
Grassland – Other neutral grassland	Created	Moderate	5	Grassland Habitat Types	Target condition is 'Moderate' in five years. Undesirable species and physical damage are below 5% cover. Cover of bracken less than 20% and cover of scrub and bramble less than 5% Variation of sward height with at least 20% being more than 7cm and 20% being less than 20%.	Year 1: June – Spray off or remove competitive/ruderal growth July – power/disc harrow August - Spray off or remove competitive/ruderal growth September to October – Seed with seed mix (Emorsgate EM5 or similar with additional yellow rattle @ 0.1g/m ²) Year 2: April to June/July – control annual weeds by pulling or pot treatment July to September – Mow to 5-10cm Year 3 onwards Cut and collect arisings late July early August
Heathland and shrub – Mixed scrub	Created	Moderate	5	Grassland Habitat Types	Target condition is 'Moderate' in five years. Undesirable species to make up less than 5% of ground cover. Absence of invasive non-native species.	Ensure absence of invasive non-natives, undesirables to be <5% ground cover.

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
					<p>Representative of UKHab description and at least 3 woody species with not one comprising more than 75% of the cover.</p> <p>Good age range with seedlings, young shrubs and mature shrubs.</p>	<p>At least 3 woody species should be present with not one being more than 75% cover.</p> <p>Clearing glades or rides present within the scrub.</p> <p>Good age range- seedlings, young and mature shrubs present.</p>
Lakes – Ponds (Non-Priority Habitat)	Created	Moderate	3	Lakes Habitat Types	<p>Target condition is 'Moderate' in 3 years.</p> <p>Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge.</p> <p>Less than 10% of the pond is covered with duckweed or filamentous algae.</p> <p>No connection to other waterbodies, either via streams, ditches or artificial pipework.</p> <p>Absence of non-native plant and animal species.</p> <p>No artificial presence of fish – naturally occurring numbers to be low density.</p>	<p>Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge.</p> <p>Ensure less than 10% of the pond is covered with duckweed or filamentous algae.</p> <p>There should be no connection to other waterbodies, either via streams, ditches or artificial pipework.</p> <p>Non-native invasive species should be removed.</p>
Lakes – Ponds (Priority Habitat)	Created	Moderate	3	Lakes Habitat Types	<p>Target condition is 'Moderate' in 3 years.</p> <p>Create semi-natural habitat (ie. Moderate distinctiveness or above) for at least 10m from the pond edge.</p> <p>Less than 10% of the pond is covered with duckweed or filamentous algae.</p> <p>No connection to other waterbodies, either via streams, ditches or artificial pipework.</p> <p>Absence of non-native plant and animal species.</p> <p>No artificial presence of fish – naturally occurring numbers to be low density.</p>	<p>Manged to remove non-native species regularly.</p> <p>10% of the pond should be covered with duckweed or filamentous algae.</p> <p>Should not be shaded more than 50%</p> <p>The water body should have semi natural riparian land for at least 10 m from the pond edge.</p> <p>Ponds will be fishless.</p>

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Urban – Developed land; sealed surface	Created	N/A – Other	0	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Urban – Introduced Shrub	Created	N/A – Other	1	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Urban – Vacant/Derelict/Bareground	Created	N/A – Other	1	Urban Habitat Types	No assessment required; condition is pre-set.	N/A
Reed beds	Created	Good	12	Wetland Habitat Types	Dominated by common reeds being an early successional, less developed stage in the development of fens habitats	Year 1: Sow with wetland seed mix following ground preparation. Year 1 to 12+: Maintain reedbeds to include at least 60% common reeds. Manage weeds
Woodland and forest – Lowland mixed deciduous woodland	Created	Moderate	30+	Woodland Habitat Types	Target condition of 'Moderate' in 30+ years. Three age classes present. Erect fencing to prevent significant browsing damage evident in woodland. No invasive species present in the woodland. >80% of canopy trees and >80% of understorey shrubs are native. Five or more native tree or shrub species found across the woodland parcel. Open space within the woodland is 20-40% of woodland has areas of temporary open space. Woodland managed to ensure there is low risk pest or disease present. Less than 1 hectare in total nutrient enrichment across woodland area and/or less than 20% of woodland has damaged ground.	Seclude the area with fencing to prevent herbivore damage. This will also decrease woodland disturbance. Planting of saplings to give woodland regeneration. Fill in areas of open space.

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Woodland and forest – Other woodland; broadleaved	Created	Moderate	15	Woodland Habitat Types	<p>Target condition of 'Moderate' in 15 years.</p> <p>Three age classes present.</p> <p>Erect fencing to prevent significant browsing damage evident in woodland.</p> <p>No invasive species present in the woodland.</p> <p>>80% of canopy trees and >80% of understorey shrubs are native.</p> <p>Five or more native tree or shrub species found across the woodland parcel.</p> <p>Open space within the woodland is 20-40% of woodland has areas of temporary open space.</p> <p>Woodland managed to ensure there is low risk pest or disease present.</p> <p>Less than 1 hectare in total nutrient enrichment across woodland area and/or less than 20% of woodland has damaged ground.</p>	<p>Seclude the area with fencing to prevent herbivore damage. This will also decrease woodland disturbance.</p> <p>Year 0 to 5: Prepare ground, plant saplings and manage weeds and undesirable species.</p> <p>Year 5- 15: Selective thinning and coppicing to allow sunlight to the field layer – rotationally every two to three years. This will also create deadwood</p>
Native Species Rich Hedgerow	Created	Moderate	5	Hedgerow	<p>The condition criteria for hedgerows are as follows:</p> <p>Gap between ground and base of canopy <0.5 m for >90% of length;</p> <p>Gaps make up <10% of total length and no canopy gaps >5m;</p> <p>>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species;</p> <p>Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground;</p> <p>Height and width >1.5 m average along length</p>	<p>To meet target condition, it will be necessary to:</p> <p>Carry out planting according to the specification in the Landscape Plan;</p> <p>Carry out planting to appropriate standards;</p> <p>Carry out planting with due diligence and do not introduce neophyte or invasive non-native species;</p> <p>Ensure gaps do not appear between the ground and base of the canopy, and along the length of the hedge;</p> <p>Monitor planting to ensure correct establishment, and take remedial action if growth fails.</p>

Habitat type	Habitat measure	Target condition	Time to target condition (years)	Habitat Condition Sheet	Condition Criteria	Associated habitat management requirements
Line of Trees	Created	Moderate	20	Hedgerow	The condition criteria for lines of trees are as follows: Continuous canopy Definition: trees < 1/3 expected fully mature height gaps make up <10% of total length and there are no canopy gaps >5 m	To meet target condition, it will be necessary to: Plant native tree species to create a continuous canopy and where gaps make up <10% of the total length and there are no canopy gaps >5m.
Other Rivers and streams	Created	Moderate	5	Rivers	Physical habitat features such as riparian cover, channel substrate, habitat type and in-stream vegetation. These features were used to assess the potential for waterbodies to support protected or notable species.	Multi-parameter water quality meter check to determine the physico-chemical quality (dissolved oxygen, pH, temperature and conductivity) of the watercourse. Removal of any invasive species. Future monitoring to be carried out to quantify the successful establishment of the habitat including the riparian zone.

Appendix G Biodiversity Metric 3.0 Calculation

[Return to results menu](#)

On-site baseline	<i>Habitat units</i>	558.37
	<i>Hedgerow units</i>	32.32
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	620.42
	<i>Hedgerow units</i>	36.64
	<i>River units</i>	0.00
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	11.11%
	<i>Hedgerow units</i>	13.37%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	62.05
	<i>Hedgerow units</i>	4.32
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	11.11%
	<i>Hedgerow units</i>	13.37%
	<i>River units</i>	0.00%
Trading rules Satisfied?	No - Check Trading Summary	

Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/creation)	Habitat units	62.05
	Hedgerow units	4.32
	River units	0.00

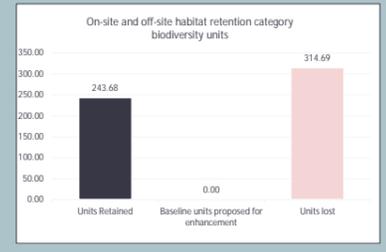
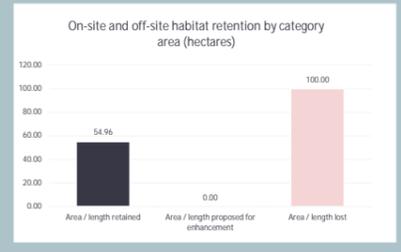
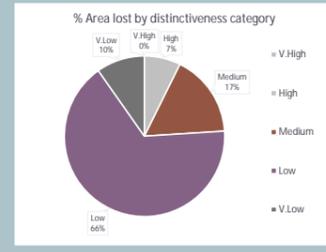
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	Habitat units	11.11%
	Hedgerow units	13.37%
	River units	0.00%

Combined habitat retention and enhancement			
	Habitats	Hedgerows	Rivers
Total area / length	154.96	9.11	0.00
Total units	558.37	32.32	0.00
Area / length retained	54.96	3.79	0.00
Units Retained	243.69	14.95	0.00
Area / length proposed for enhancement	0.00	0.00	0.00
Baseline units proposed for enhancement	0.00	0.00	0.00
Area / length lost	100.00	5.32	0.00
Units lost	314.69	17.37	0.00

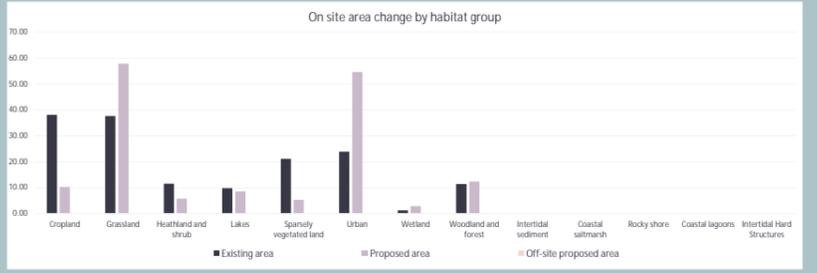
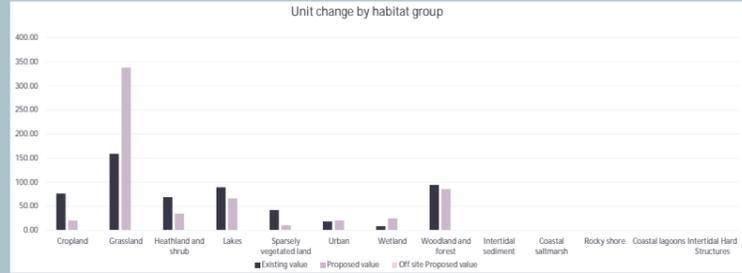
Area habitats

On site change by broad habitat type						
Habitat group	Baseline		Post development on site		Onsite Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change
Cropland	38.14	76.28	10.31	20.62	-27.83	-55.66
Grassland	37.71	159.33	57.84	338.36	20.13	179.04
Heathland and shrub	11.52	68.90	5.74	34.62	-5.78	-34.28
Lakes	9.80	89.43	8.51	66.78	-1.29	-22.65
Sparsely vegetated land	21.17	42.34	5.32	10.64	-15.85	-31.70
Urban	23.89	18.90	54.68	20.34	30.79	1.44
Wetland	1.26	8.69	2.95	24.65	1.69	15.97
Woodland and forest	11.47	94.50	12.37	85.50	0.90	-9.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

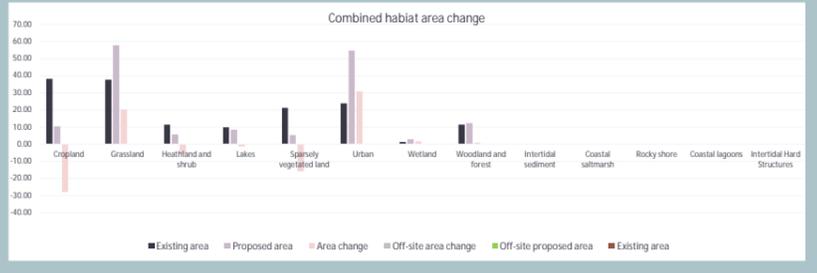
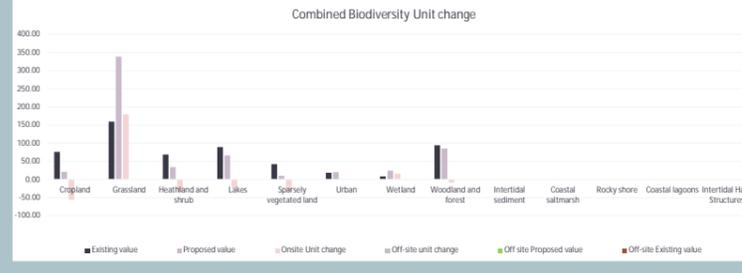
Combined area lost by distinctiveness band		
Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	7.31	7
Medium	16.87	17
Low	66.26	66
V.Low	9.76	10



Off site change by broad habitat type						
Habitat group	Baseline		Post development Off-site		Off-site Change	
	Existing area	Off-site Existing value	Off-site proposed area	Off-site Proposed value	Off-site area change	Off-site unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



Combined on site and off site change by broad habitat type						
Habitat group	Baseline		On-site and Off-site post development		Combined change	
	Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area	Proposed value
Cropland	38.14	76.28	10.31	20.62	-27.83	-55.66
Grassland	37.71	159.33	57.84	338.36	20.13	179.04
Heathland and shrub	11.52	68.90	5.74	34.62	-5.78	-34.28
Lakes	9.80	89.43	8.51	66.78	-1.29	-22.65
Sparsely vegetated land	21.17	42.34	5.32	10.64	-15.85	-31.70
Urban	23.89	18.90	54.68	20.34	30.79	1.44
Wetland	1.26	8.69	2.95	24.65	1.69	15.97
Woodland and forest	11.47	94.50	12.37	85.50	0.90	-9.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



Hedgerows and lines of trees

On site change by hedgerow type

Hedgerow type	Baseline		Post development on site		Onsite Change	
	Existing length on-site	Existing value	Proposed length on-site	Proposed value on-site	On-site length change	On-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.30	6.21	0.18	3.31	-0.14	-2.90
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	2.77	21.33	2.77	21.33
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.39	3.77	0.28	2.62	-0.11	-1.15
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	8.42	22.33	3.35	9.02	-5.07	-13.32
Line of Trees	0.00	0.00	0.16	0.36	0.16	0.36
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00

Off site change by hedgerow type

Hedgerow type	Off site baseline		Post development off site		Off site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00

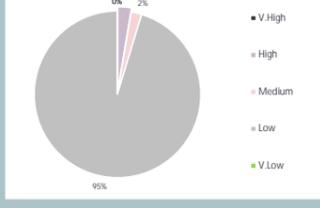
Combined on and off site change by hedgerow type

Hedgerow type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.30	6.21	0.18	3.31	-0.14	-2.90
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	2.77	21.33	2.77	21.33
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.39	3.77	0.28	2.62	-0.11	-1.15
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	8.42	22.33	3.35	9.02	-5.07	-13.32
Line of Trees	0.00	0.00	0.16	0.36	0.16	0.36
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00

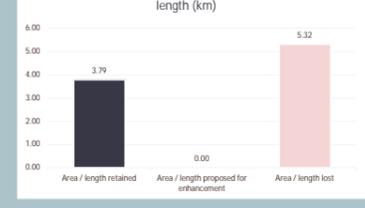
Combined length lost by distinctiveness band

Category	Length lost (KM)	Length lost (%)
V.High	0	
High	0.14	3
Medium	0.11	2
Low	6.07	95
V.Low	0	

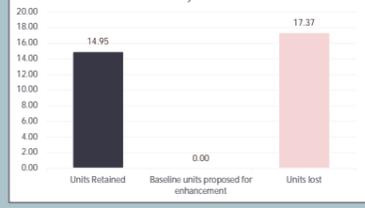
% Length lost by distinctiveness category



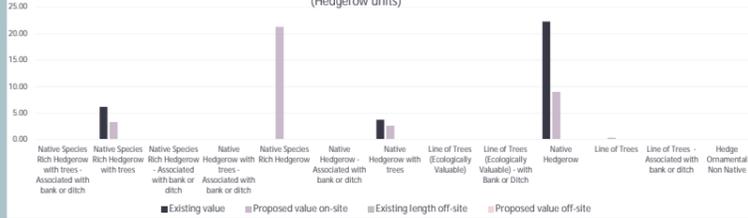
On-site and off-site hedge retention by category length (km)



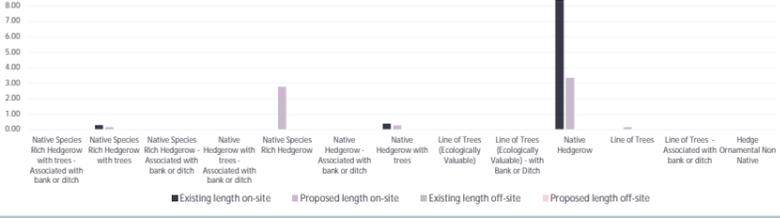
On-site and off-site hedge retention category biodiversity units



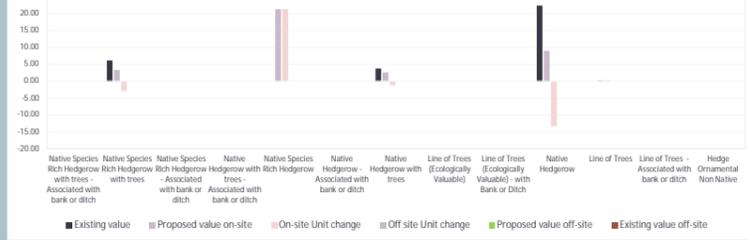
Change by hedgerow type (Hedgerow units)



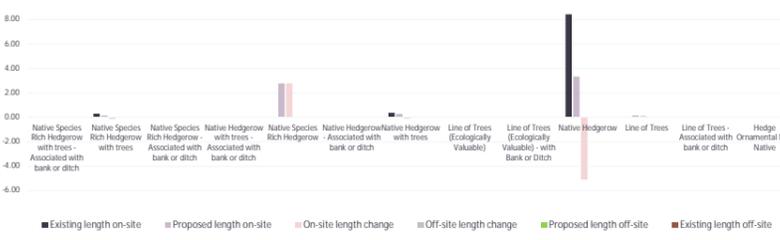
On site length change by hedgerow length (km)



Combined Biodiversity unit change



Combined hedgerow length change (km)



Rivers and Streams

On site change by river type

River type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0

Off site change by river type

River type	Baseline		Post development off-site		Off-site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0

Combined on and off site change by river type

River type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0

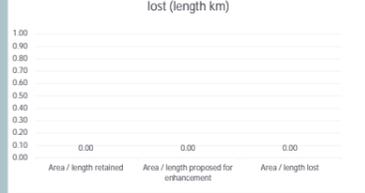
Combined length lost by distinctiveness band

Category	Length lost (KM)	Length lost (%)
V.High	0	
High	0	
Medium	0	
Low	0	

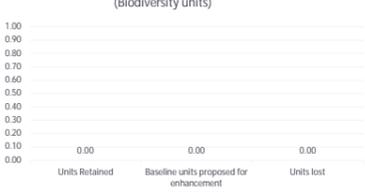
% Length lost by distinctiveness category



River length retained, proposed for enhancement or lost (length km)



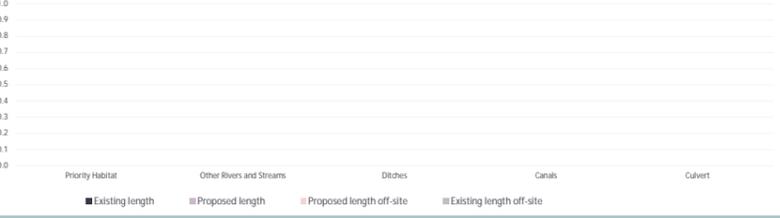
River retention category (Biodiversity units)



Unit change by river type



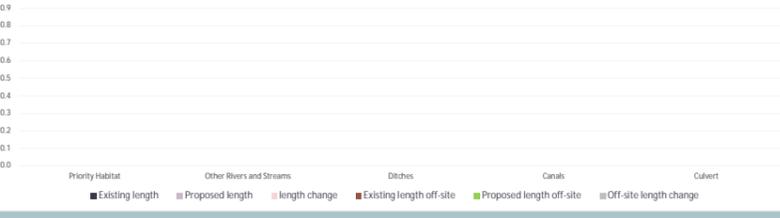
Length change by river type



Combined Biodiversity Unit change



Combined river length change



Didcot Garden Town HIF 1 Scheme
A-2 Site Habitat Creation

Condense / Show Columns
Condense / Show Rows
Main Menu
Instructions

Note: Habitat selected has a time to target condition greater than 30 years. Non standard agreement may be required.

Check Area - Area of development footprint and habitat creation exceeds the area of habitats lost

Broad Habitat	Proposed habitat	Area (hectare)	Distinctiveness		Condition		Strategic significance			Temporal multiplier				Difficulty multipliers				Habitat units delivered	Comments			
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic position multiplier	Standard time to target	Habitat created in advance/yes	Delay in starting habitat	Standard or adjusted time to target condition	Final time to target condition/yes	Final time to target multiplier	Standard difficulty of	Applied difficulty multiplier	Final difficulty of		Difficulty multiplier applied	Assessor comments	Reviewer comments	
																						Assessor comments
Grassland	Other neutral grassland	1.97	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	14.51	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	1.38	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	10.16	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Modified grassland	1	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.93		
Grassland	Modified grassland	0.07	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.14		
Grassland	Modified grassland	0.01	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.03		
Urban	Developed land; sealed surface	3.82	V.Low	0	N/A - Other	0	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	0			Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Introduced shrub	0.26	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.50		
Urban	Vacant/derelict land/ bareground	0.94	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.81		
Wetland	Reedbeds	0.02	High	6	Good	3	Within areas for locally identified in local strategy	High strategic significance	1.05	12			Standard time to target condition applied	12	0.852	Medium	Standard difficulty applied	Medium	0.67	0.18	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	16.91	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	124.53	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	14	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	103.10	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	0.3	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	2.31	Habitat listed in local plans. The value assigned high strategic significance	
Heathland and shrub	Hawthorn scrub	0.08	Medium	4	Moderate	2	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.54		
Lakes	Ponds (Non-Priority Habitat)	0.09	Medium	4	Moderate	2	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	3			Standard time to target condition applied	3	0.899	Low	Standard difficulty applied	Low	1	0.65		
Lakes	Ponds (Non-Priority Habitat)	0.34	Medium	4	Good	3	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	3			Standard time to target condition applied	3	0.837	Low	Standard difficulty applied	Low	1	3.41		
Lakes	Ponds (Priority Habitat)	1.39	High	6	Moderate	2	Within areas for locally identified in local strategy	High strategic significance	1.05	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	11.55	Use green infrastructure with landscaping designed to function both for drainage and biodiversity. Habitat listed in local plans. The value assigned high strategic significance	
Lakes	Ponds (Priority Habitat)	0.14	High	6	Moderate	2	Within areas for locally identified in local strategy	High strategic significance	1.05	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	1.16	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Modified grassland	9.29	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	17.93		
Grassland	Modified grassland	0.16	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.31		
Grassland	Modified grassland	0.9	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.74		
Urban	Developed land; sealed surface	26	V.Low	0	N/A - Other	0	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	0			Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Introduced shrub	0.48	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.93		
Urban	Vacant/derelict land/ bareground	0.52	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	1.00		
Urban	Vacant/derelict land/ bareground	13.75	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	26.54		
Urban	Vacant/derelict land/ bareground	0.06	Low	2	Poor	1	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	1			Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.15		
Wetland	Reedbeds	1.81	High	6	Good	3	Within areas for locally identified in local strategy	High strategic significance	1.05	12			Standard time to target condition applied	12	0.852	Medium	Standard difficulty applied	Medium	0.67	16.37	Habitat listed in local plans. The value assigned high strategic significance	
Wetland	Reedbeds	0.08	High	6	Good	3	Within areas for locally identified in local strategy	High strategic significance	1.05	12			Standard time to target condition applied	12	0.852	Medium	Standard difficulty applied	Medium	0.67	1.40	Habitat listed in local plans. The value assigned high strategic significance	
Lakes	Ponds (Priority Habitat)	0.47	High	6	Moderate	2	Within areas for locally identified in local strategy	High strategic significance	1.05	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	3.91	Habitat listed in local plans. The value assigned high strategic significance	
Woodland and forest	Lowland mixed deciduous woodland	0.24	High	6	Moderate	2	Within areas for locally identified in local strategy	High strategic significance	1.05	30+			Standard time to target condition applied	30+	0.320	High	Standard difficulty applied	High	0.33	0.36	Habitat listed in local plans. The value assigned high strategic significance	
Woodland and forest	Other woodland; broadleaved	0.94	Medium	4	Moderate	2	As a result of compensation not in local strategy/ no local strategy	Low strategic significance	1	15			Standard time to target condition applied	15	0.596	Low	Standard difficulty applied	Low	1	27.86		
Lakes	Ponds (Priority Habitat)	0.05	High	6	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	3			Standard time to target condition applied	3	0.899	Medium	Standard difficulty applied	Medium	0.67	0.40		
Grassland	Other neutral grassland	0.09	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.59	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	0.02	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.15	Habitat listed in local plans. The value assigned high strategic significance	
Grassland	Other neutral grassland	0.07	Medium	4	Moderate	2	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	5			Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.52	Habitat listed in local plans. The value assigned high strategic significance	

B-1 Site Hedge Baseline

Condense / Show Columns Condense / Show Rows
 Main Menu Instructions

Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments	
	Hedge number	Hedgerow type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1	1	Native Hedgerow	4.4	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	10.12	1.78		4.09	0.00	2.62	6.03	Habitat listed in local plans, therefore assigned high strategic significance	
2	2	Native Hedgerow	1.48	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	3.40	0.53		1.22	0.00	0.95	2.19	Habitat listed in local plans, therefore assigned high strategic significance	
3	3	Native Hedgerow	1.24	Low	2	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	5.70	0.56		2.58	0.00	0.68	3.13	Habitat listed in local plans, therefore assigned high strategic significance	
4	4	Native Hedgerow	0.05	Low	2	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	0.23	0.01		0.05	0.00	0.04	0.18	Habitat listed in local plans, therefore assigned high strategic significance	
5	5	Native Hedgerow	1.25	Low	2	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Same distinctiveness band or better	2.88	0.47		1.08	0.00	0.78	1.79	Habitat listed in local plans, therefore assigned high strategic significance	
6	6	Native Hedgerow with trees	0.01	Medium	4	Poor	1	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	0.05	0.01		0.05	0.00	0.00	0.00	Habitat listed in local plans, therefore assigned high strategic significance	
7	7	Native Hedgerow with trees	0.05	Medium	4	Good	3	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	0.69	0.02		0.28	0.00	0.03	0.41	Habitat listed in local plans, therefore assigned high strategic significance	
8	8	Native Hedgerow with trees	0.33	Medium	4	Moderate	2	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	3.04	0.25		2.30	0.00	0.08	0.74	Habitat listed in local plans, therefore assigned high strategic significance	
9	9	Native Species Rich Hedgerow with trees	0.3	High	6	Good	3	Within area formally identified in local strategy	High strategic significance	1.15	Like for like or better	8.21	0.16		3.31	0.00	0.14	2.90	Habitat listed in local plans, therefore assigned high strategic significance	
10																				
11																				
12																				
13																				
14			9.11									32.32	3.79	0.00	14.95	0.00	5.32	17.37		

B-2 Site Hedge Creation

Condense / Show Columns Condense / Show Rows

Main Menu Hit the Docs

Baseline ref	New hedge number	Proposed habitats		Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier				Difficulty risk multipliers				Hedge units delivered	Comments				
		Habitat type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position	Standard Time to target	Habitat created in advance/years	Delay in starting habitat	Standard or adjusted time to target condition	Final time to target condition/years	Final Time to target multiplier	Standard difficulty of	Applied difficulty multiplier		Final difficulty of	Difficulty multiplier	Assessor comments	Reviewer comments	
1	1	Native Species Rich Hedge row	0.07	Medium	4	Moderate	2	Within area for mainly identified in local strategy	High strategic significance	1.15	5		Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	0.54	Habitat listed in local plans. See also assigned high strategic significance.			
2	2	Line of Trees	0.16	Low	2	Moderate	2	Within area for mainly identified in local strategy	High strategic significance	1.15	20		Standard time to target condition applied	20	0.480	Low	Standard difficulty applied	Low	1	0.36	Habitat listed in local plans. See also assigned high strategic significance.			
3	3	Native Species Rich Hedge row	2.7	Medium	4	Moderate	2	Within area for mainly identified in local strategy	High strategic significance	1.15	5		Standard time to target condition applied	5	0.837	Low	Standard difficulty applied	Low	1	20.79	Habitat listed in local plans. See also assigned high strategic significance.			
4																								
5																								
6																								
7																								
8																								
			1.93																			21.09		

Didcot Northern Perimeter Road

Headline Results

[Return to results menu](#)

On-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	20.97
On-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	21.23
On-site net % change <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	1.26%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.26
Total on-site net % change plus off-site surplus <small>(including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	1.26%
Trading rules Satisfied?	Yes	

[Return to results menu](#)

Summary Figures

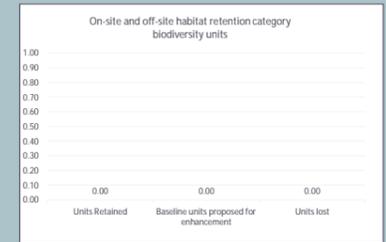
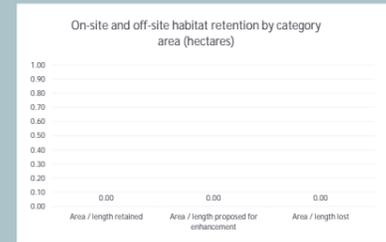
Net project biodiversity units (including all on-site & off-site habitat retention/creation)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.26
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	Habitat units	0.00%
	Hedgerow units	0.00%
	River units	1.26%

Combined habitat retention and enhancement			
	Habitats	Hedgerows	Rivers
Total area / length	0.00	0.00	1.77
Total units	0.00	0.00	20.97
Area / length retained	0.00	0.00	0.68
Units Retained	0.00	0.00	6.19
Area / length proposed for enhancement	0.00	0.00	0.94
Baseline units proposed for enhancement	0.00	0.00	12.50
Area / length lost	0.00	0.00	0.15
Units lost	0.00	0.00	2.28

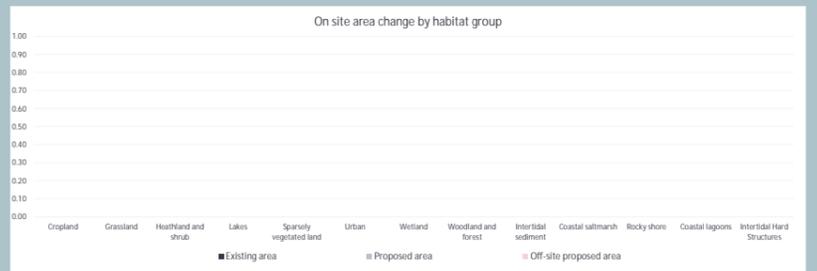
Area habitats

Habitat group	Baseline		Post development on site		Onsite Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	Onsite Unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

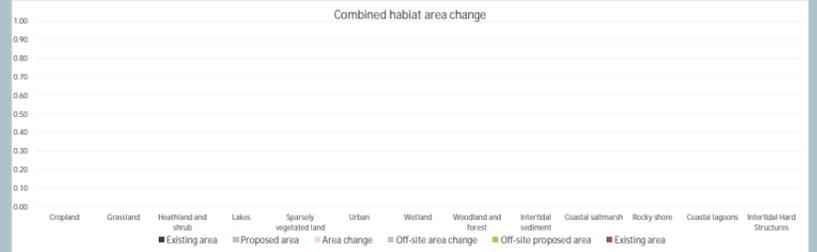
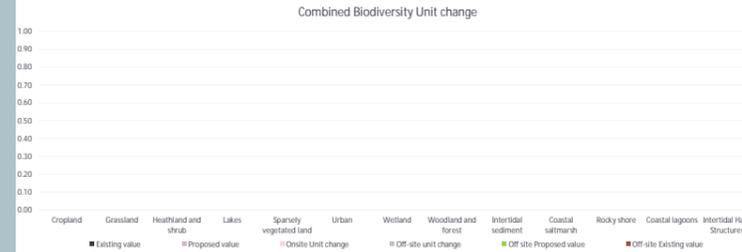
Combined area lost by distinctiveness band		
Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	0	
Medium	0	
Low	0	
V.Low	0	



Habitat group	Baseline		Post development Off-site		Off-site Change	
	Existing area	Off-site Existing value	Off-site proposed area	Off site Proposed value	Off-site area change	Off-site unit change
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



Habitat group	Baseline		On-site and Off-site post development		Combined change	
	Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area	Proposed value
Cropland	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and shrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and forest	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal sediment	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Intertidal Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



Area Habitats

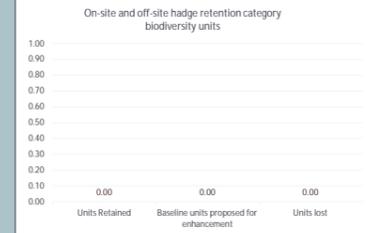
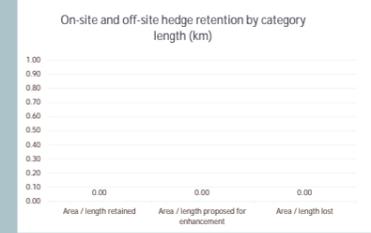
Area Habitats

Area Habitats

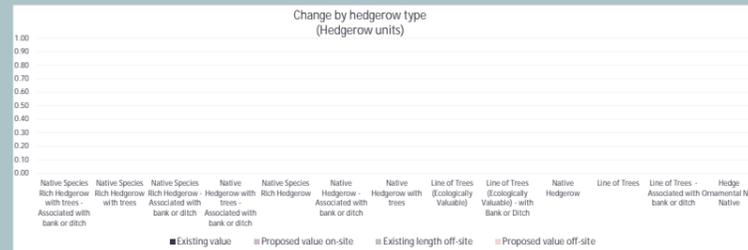
Hedgerows and lines of trees

Hedgerow type	Baseline		Post development on site		Onsite Change	
	Existing length on-site	Existing value	Proposed length on-site	Proposed value on-site	On-site length change	On-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00

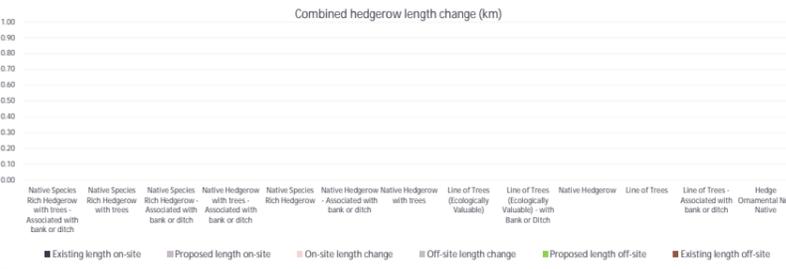
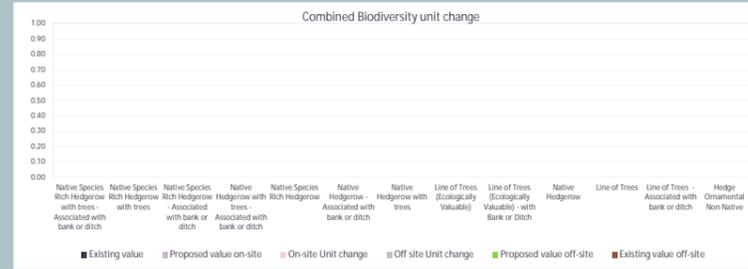
Category	Length lost (KM)	Length lost (%)
V.High	0	
High	0	
Medium	0	
Low	0	
V.Low	0	



Hedgerow type	Off site baseline		Post development off site		Off site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00



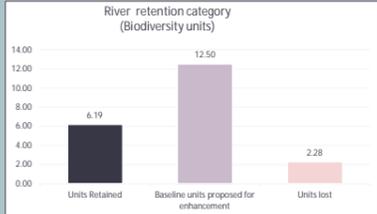
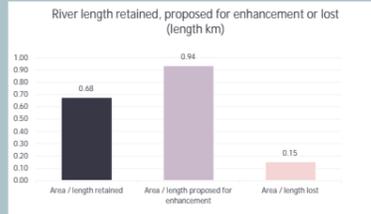
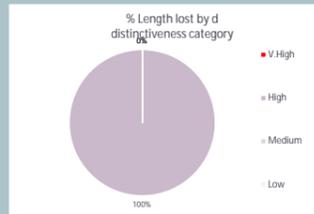
Hedgerow type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable)	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental Non Native	0.00	0.00	0.00	0.00	0.00	0.00



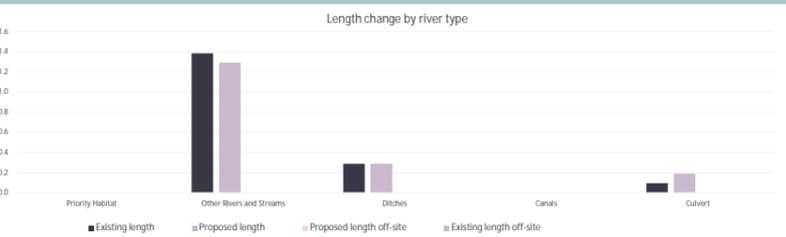
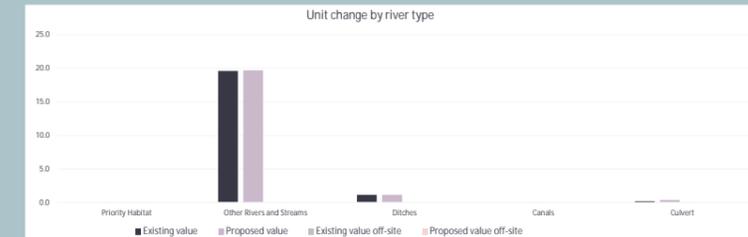
Rivers and Streams

River type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	1.4	19.6	1.3	19.7	-0.1	0.1
Ditches	0.3	1.2	0.3	1.2	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.1	0.2	0.2	0.4	0.1	0.2

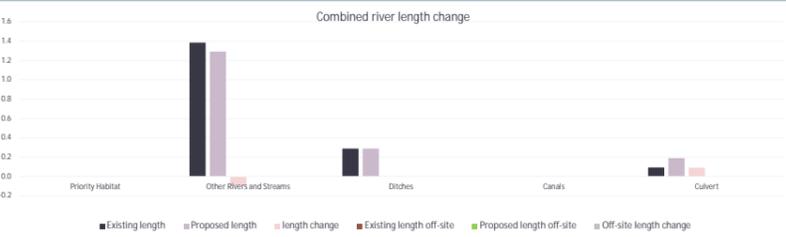
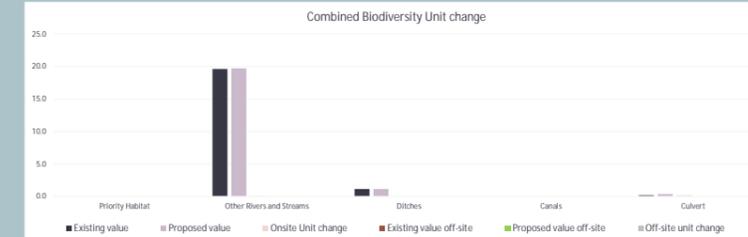
Category	Length lost (KM)	Length lost (%)
V.High	0	
High	0.194	#DIV/0!
Medium	0	
Low	0	



River type	Baseline		Post development off-site		Off-site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0



River type	Baseline		Post development on site		Onsite Change	
	Existing length	Existing value	Proposed length	Proposed value	length change	Onsite Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	1.4	19.6	1.3	19.7	-0.1	0.1
Ditches	0.3	1.2	0.3	1.2	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.1	0.2	0.2	0.4	0.1	0.2



C-1 Site River Baseline

Condense / Show Columns Condense / Show Rows
 Main Menu Instructions

Baseline ref	Existing river type		Habitat distinctiveness		Habitat condition		Strategic significance			Watercourse encroachment		Riparian encroachment		Suggested action	Ecological baselines	Retention category biodiversity value						Comments	
	River type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Extent of encroachment	Multiplier	Extent of encroachment	Multiplier			Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost	Assessor Comments	Reviewer comments
1	Channel	0.074	Low	2	Poor	1	Low potential/Action not identified in any plan	Low Strategic Significance	1	N/A - Channel	1	No Encroachment	1	Restore	0.15	0.04	0.034	0.08	0.07	0.00	0.00	Minor Ditch Distorting Channel	
2	Other Rivers and Streams	0.04	High	6	Moderate	2	Low potential/Action not identified in any plan	Low Strategic Significance	1	No Encroachment	1	Major	0.75	Restore	0.36	0	0.036	0.00	0.34	0.00	0.02	Minor Ditch	
3	Channel	0.003	Low	2	Poor	1	Low potential/Action not identified in any plan	Low Strategic Significance	1	N/A - Channel	1	No Encroachment	1	Restore	0.01	0.003	0	0.01	0.00	0.00	0.00	Minor Ditch Distorting Channel in middle of field (access track to cross one field to the next)	
4	Other Rivers and Streams	0.88	High	6	Fairly Good	2.5	Low potential/Action not identified in any plan	Low Strategic Significance	1	No Encroachment	1	No Encroachment	1	Restore	9.35	0.281	0.15	4.37	2.25	0.11	1.64	Minor Ditch	
5	Other Rivers and Streams	0.087	High	6	Fairly Good	2.5	Low potential/Action not identified in any plan	Low Strategic Significance	1	No Encroachment	1	No Encroachment	1	Restore	0.86	0.033	0	0.50	0.00	0.03	0.36	Over Stock	
6	Other Rivers and Streams	0.003	High	6	Moderate	2	Within River Basin Management Plan	High Strategic Significance	1.15	No Encroachment	1	No Encroachment	1	Restore	0.33	0.004	0	0.08	0.00	0.03	0.26	River Thinning	
7	Channel	0.019	Low	2	Poor	1	Low potential/Action not identified in any plan	Low Strategic Significance	1	N/A - Channel	1	No Encroachment	1	Restore	0.04	0.019	0	0.04	0.00	0.00	0.00	Over Stock - blocking Channel under 4 road water out on left - no stock as signs are now wood frame	
8	Ditches	0.288	Medium	4	Poor	1	Low potential/Action not identified in any plan	Low Strategic Significance	1	No Encroachment	1	No Encroachment	1	Restore	1.15	0.288	0	1.15	0.00	0.00	0.00	been present as they seemed to be drainage ditches / main roads	
9	Other Rivers and Streams	0.713	High	6	Moderate	2	Within River Basin Management Plan	High Strategic Significance	1.15	No Encroachment	1	No Encroachment	1	Restore	9.84	0	0.713	0.00	9.84	0.00	0.00	Thinning riparian planting	
10																							
11																							
															0.68	0.84	0.19	12.80	0.18	2.88			

Appendix H MoRPh Survey Proforma

Modular River Physical (MoRPh) Field Survey (ver 12)

Sheet 1 - GENERAL INFORMATION

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

PROJECT DETAILS (Optional)		PROJECT DETAILS (Optional)	
Project name		WFD Water Body ID	
Project code		Survey type (monitoring, pre-project, post-project, post-recovery, scenario, training)	
1.1 SURVEYOR AND SURVEY CONDITIONS			
Surveyor			
Survey date and time			
Module surveyed from? left / right / both banks			
Bad visible? Yes / No			
Adverse conditions? Yes / No			
If yes, describe e.g. elevated flow, turbid water, etc			
1.3 CHANNEL DIMENSIONS (m)			
Cross section GPS			
1. MoRPh river width			
2. Left bank height			
3. Right bank height			
4. Bankfull width			
5. Water width			
6. Water depth			
Multi-MoRPh Channel Dimensions			
If surveying multiple adjoining modules, a minimum of ONE (REPRESENTATIVE) SET OF CHANNEL DIMENSIONS should be measured for each group - up to 10 modules.			
TIP: Bridges provide a good location for estimating dimensions of larger rivers.			
1.2 MODULE NAME AND LOCATION			
River name			
Location/Reach name			
SubReach name			
(used to reference a sub-reach of contiguous modules)			
Module number (1, 2, 3... number from upstream to downstream within SubReach)			
Riverfly site reference (optional)			
Module length (m) (i)			
NGR / GPS - Midpoint			
(i) Determining your Module Length			
River width (m) (ii)	Module length (m)		
< 5 m	10 m		
5 to < 10 m	20 m		
10 to < 20 m	30 m		
20 to < 30 m	40 m		
Large & navigable rivers and canals	50 m		
(ii) Predominant MoRPh river width is used to determine module length. It is estimated as the typical water width plus any area of bare sediment or emergent aquatic plants at the water edge.			
If river > 30 m wide it is usually too large for a full MoRPh Survey. For large & navigable rivers and canals a reduced MoRPh survey is possible, focusing on the banktops and faces and those bed features that are visible			
Identifying the LEFT AND RIGHT BANK			
The LEFT and RIGHT BANK of a river are on the left and right sides of the channel when facing in a downstream direction with the water flowing away from you			
1.4 PHOTOGRAPHS (max 4)			
Fixed point photograph taken with NGR / GPS? [Y/N]			
Photo ref 1 (iv)			
Photo ref 2			
Photo ref 3			
Photo ref 4			
We recommend 3 photos from the midpoint, one across, one looking upstream and one downstream to cover entire module. Photo 4 could be of special features or to support notes/queries.			
NOTES			
Use this box to enter details where you are unsure of any measurements / records you have made.			

River Survey (MoRPh ver 12)

Sheet 2 - BANK TOP: FLOODPLAIN MEASUREMENTS

MEASUREMENTS

RECORD WHAT YOU SEE NOT WHAT YOU KNOW (within 10 m of bank edge)

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES			
2.1 BANK TOP - ARTIFICIAL / MANAGED GROUND COVER							
Artificial ground cover	DOMINANT TYPE	LB	RB	LB	RB	SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of area within 10m of bank edge	
	SUB-DOMINANT TYPE (see (ii))			A / T / P / E	A / T / P / E		
2.2 BANK TOP - NATURAL / LIGHTLY MANAGED GROUND COVER							
Terrestrial vegetation	Unvegetated (bare soil / rock)			A / T / P / E	A / T / P / E	ABUNDANCE CODES A/T/P/E abundance codes on sheet 2 refer to proportion of area within 10 m of bank edge along the module length. Circle one of: A = absent, T = trace (< 5%), P = present (5% - < 33%), E = extensive (> 33%)	
	Mosses / lichens			A / T / P / E	A / T / P / E		
	Short/creeping herbs/grasses			A / T / P / E	A / T / P / E		
	Tall herbs/grasses			A / T / P / E	A / T / P / E		
	Scrub or shrubs			A / T / P / E	A / T / P / E		
	Saplings or trees			A / T / P / E	A / T / P / E		
	Fallen trees (ONLY those with a significant proportion on bank top)			A / T / P / E	A / T / P / E		
	Leaning trees			A / T / P / E	A / T / P / E		
	J-shaped trees			A / T / P / E	A / T / P / E		
	Tree/shrub branches trailing into channel			A / T / P / E	A / T / P / E		
Large wood (wood pieces > 1m long, > 10 cm diameter)			A / T / P / E	A / T / P / E			
Predominant tree type (Absent, Deciduous, Coniferous, Mixed)			A / D / C / M	A / D / C / M			
Non-native invasive plant species	Himalayan balsam			A / T / P / E	A / T / P / E	PLANT IDENTIFICATION See MoRPh field guide	
	Japanese knotweed			A / T / P / E	A / T / P / E		
	Giant hogweed			A / T / P / E	A / T / P / E		
	Floating pennywort			A / T / P / E	A / T / P / E		
	Other: NAME SPECIES			A / T / P / E	A / T / P / E		
Other: NAME SPECIES			A / T / P / E	A / T / P / E			
2.3 BANK TOP - WATER RELATED FEATURES							
Water-related features	Pond	Disconnected from river at time of survey		A / T / P / E	A / T / P / E	NOTES (ctd.)	
		Connected to river by water-filled channel at time of survey		A / T / P / E	A / T / P / E		
	Side channel - free flowing separate channel including tributaries and fish passes			A / T / P / E	A / T / P / E		
		Wetland (recorded by dominant vegetation type)	Short non-woody vegetation (e.g. mosses, sedges)		A / T / P / E		A / T / P / E
			Tall, non-woody vegetation (e.g. reeds, rushes)		A / T / P / E		A / T / P / E
	Shrubs and trees (e.g. alder / willow carr)		A / T / P / E	A / T / P / E			

River Survey (MoRPh ver 12)
Sheet 3 - BANK FACE AND CHANNEL MARGIN MEASUREMENTS

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	CODE	ABUNDANCE	NOTES		
3.1 BANK FACE - PROFILE						
Bank face - Profile	Natural / artificial bank profile	DOMINANT TYPE (V, VO, VA, VS, ST, DT, CR, RA, TA, EM, SM, PC)	Bank profile type	LB RB	SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% of the bank length	
		SUB-DOMINANT TYPE (see [II])	Bank profile type	LB RB		
3.2 BANK FACE - MATERIALS						
Bank face - natural materials	Bank face sediment (AR, BE, BO, CO, GP, M, X, LL, LR, M, EA, NW)	Sediment size (top 2/3) Sediment size (bottom 2/3)	LB RB	LB RB	WHICH PART OF THE BANK IS REINFORCED? A = absent T = mainly the top B = mainly the bottom W = Whole bank face	
Bank face - Reinforcement	Which part of the bank is reinforced? (NOTE SPECIFIC CODES IN BOX [II])	Reinforcement type	LB RB	LB RB	SUB-DOMINANT TYPE ONLY RECORD if it occupies > 20% reinforced area	
	How extensive is the reinforcement horizontally along the module?	Reinforcement type	LB RB	LB RB		
3.3 BANK FACE / CHANNEL MARGIN - FEATURES						
Natural physical features	Bare / unvegetated side bar (< 50% vegetation cover)	Sediment size	LB RB	LB RB	ABUNDANCE CODES A/T/P/E abundance codes on sheet 2 refer to proportion of bank length occupied by feature, APART FROM 'terrestrial vegetation' and 'non-native/invasive plant species' in section 3.4, which refer to proportion of bank face area A = 0%, T = < 5%, P = 5% - < 33%, E = > 33%	
	Vegetated side bar (> 50% vegetation cover)	Sediment size	LB RB	LB RB		
	Berm (if unsure whether berm/bench record as berm)		LB RB	LB RB		
	Bench (if unsure whether berm/bench record as berm)		LB RB	LB RB		
	Stable cliff (> 0.5 m)		LB RB	LB RB		
	Eroding cliff (> 0.5 m)		LB RB	LB RB		
	Toe		LB RB	LB RB		
	Nest holes or animal burrows		LB RB	LB RB		
	Marginal backwater		LB RB	LB RB		
	Tributary junction / confluence	RECORD AS COUNT				
Artificial physical features	Pipes / outfalls (if appear potentially functional): RECORD AS COUNT				Maj (Major) = > 20% channel width; Int (Intermediate) = 10-20% width; Min (Minor) = < 10% width	
	Jetty	Maj / Int / Min	Maj / Int / Min	Maj / Int / Min		
	Deflector	Maj / Int / Min	Maj / Int / Min	Maj / Int / Min		
	Other: INSERT FEATURE NAME					
MEASUREMENT CATEGORY						
3.4 BANK FACE / CHANNEL MARGIN - VEGETATION						
Terrestrial vegetation on bank face	Unvegetated (bare earth or rock)	A / T / P / E	A / T / P / E	Fallen trees (ONLY those with a significant proportion on bank face)	A / T / P / E	A / T / P / E
	Mosses / lichens	A / T / P / E	A / T / P / E	Leaning trees	A / T / P / E	A / T / P / E
	Short (erecting) herbs/grasses	A / T / P / E	A / T / P / E	J-shaped trees	A / T / P / E	A / T / P / E
	Tall herbs/grasses	A / T / P / E	A / T / P / E	Trees/shrub branches trailing into channel	A / T / P / E	A / T / P / E
	Scrub or shrubs	A / T / P / E	A / T / P / E	Exposed tree roots	A / T / P / E	A / T / P / E
	Saplings or trees	A / T / P / E	A / T / P / E	Discrete organic accumulation (e.g. leaves, twigs)	A / T / P / E	A / T / P / E
	Large wood (pieces > 1m long, > 10 cm diameter)	A / T / P / E	A / T / P / E	Amphibious	A / T / P / E	A / T / P / E
Aquatic vegetation at bank-water margin	Liverworts, mosses, lichens	A / T / P / E	A / T / P / E	Filamentous algae	A / T / P / E	A / T / P / E
	Emergent broad-leaved	A / T / P / E	A / T / P / E			
Non-native invasive plant species	Emergent linear-leaved (incl horsetails)	A / T / P / E	A / T / P / E			
	Himalayan balsam	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E
	Japanese knotweed	A / T / P / E	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	A / T / P / E
	Giant hogweed	A / T / P / E	A / T / P / E			
	Floating pennywort	A / T / P / E	A / T / P / E			

Sheet 4 - CHANNEL BED MEASUREMENTS

RECORD WHAT YOU SEE NOT WHAT YOU KNOW

MEASUREMENT CATEGORY	MEASUREMENT TYPE	ABUNDANCE	MEASUREMENT TYPE	ABUNDANCE	
4.1 CHANNEL BED - MATERIALS					
Channel bed - Natural materials	Bedrock (BE)	A / T / P / E	Silt (and finer non-sticky particles, S)	A / T / P / E	
	Boulder (BO)	A / T / P / E	Clay (CL)	A / T / P / E	
	Cobble (CO)	A / T / P / E	Organic (leaves, twigs etc. not fully decomposed) (OR)	A / T / P / E	
	Gravel/Pebble (GP)	A / T / P / E	Feet (FE)	A / T / P / E	
	Sand (SA)	A / T / P / E			
Channel bed - Reinforcement	Silt overlying coarser sediments	A / T / P / E	Patchy thin layer (some coarser particles protrude through the silt layer)	A / T / P / E	
	Bed reinforcement materials	Bed reinforcement extent	CODE / DESCRIPTION	(I) SUB-DOMINANT ABUNDANCE TYPE: ONLY RECORD if it occupies > 20% reinforced area	
4.2 WATER SURFACE					
Water surface flow patterns	Free fall (FF)	A / T / P / E	Rippled (RP)	A / T / P / E	
	Chute (CH)	A / T / P / E	Smooth (SM)	A / T / P / E	
	Broken standing waves (BW)	A / T / P / E	No perceptible flow (NP)	A / T / P / E	
	Unbroken standing waves (UW)	A / T / P / E			
	Upswelling (UP)	A / T / P / E	Dry (DR)		
MEASUREMENT CATEGORY					
4.3 CHANNEL BED - FEATURES					
Channel bed - Natural physical features	Exposed bedrock	A / T / P / E		ABUNDANCE CODES A/T/P/E abundance codes on sheet 4 refer to proportion of the area of the river bed within the module length. Circle one off: A = absent, T = trace (< 5%), P = present (5% - < 33%), E = extensive (> 33%)	
	Exposed unvegetated boulders / rocks (< 50% vegetation cover)	A / T / P / E			
	Exposed vegetated boulders / rocks (> 50% vegetation cover)	A / T / P / E			
	Bare / unvegetated mid channel bar (< 50% vegetation cover)	sediment size	A / T / P / E		
	Vegetated mid channel bar (> 50% vegetation cover)	sediment size	A / T / P / E		
	Island	A / T / P / E			
	Cascade	A / T / P / E			
	Pool: RECORD AS COUNT				
	Riffle: RECORD AS COUNT				
	Step (steep boulder/bedrock feature < 2m high, mainly chute and free fall): RECORD AS COUNT				
	Waterfall (steep boulder/bedrock feature > 2m high, mainly free fall): RECORD AS COUNT				
	Channel bed - Artificial features	Large trash (car parts, trolleys, traffic cones etc)	A / T / P / E		
	Major weir (see [II]): RECORD AS COUNT				WEIR TYPES / SIZES Major: permanent, impermeable, impounding structure across entire channel width Intermediate: semi-permeable, loose stone / wood structure across entire channel width Minor: highly permeable, transient feature across entire channel width
	Intermediate weir (see [II]): RECORD AS COUNT				
	Minor weir (see [II]): RECORD AS COUNT				
Bridge piers in river bed: RECORD AS COUNT			BRIDGE SHADOW Wide = > 25 m channel length, Int (Intermediate) = 10-25 m, Narr (Narrow) = < 10m		
Bridge shadow (see [II]): RECORD AS COUNT	Wide / Int / Narr				
MEASUREMENT CATEGORY					
4.4 CHANNEL BED - VEGETATION					
Vegetation within wetted channel (aquatic vegetation)	Unvegetated (bare river bed)	A / T / P / E	Amphibious	A / T / P / E	
	Liverworts, mosses, lichens	A / T / P / E	Submerged broad-leaved	A / T / P / E	
	Emergent broad-leaved	A / T / P / E	Submerged linear-leaved	A / T / P / E	
	Emergent linear-leaved (incl horsetails)	A / T / P / E	Submerged fine-leaved	A / T / P / E	
	Floating leaved (rooted)	A / T / P / E	Filamentous algae	A / T / P / E	
Vegetation interacting with wetted channel (terrestrial vegetation)	Free floating	A / T / P / E	Channel choked with plants?	YES/NO	
	Vegetation shading channel	A / T / P / E	Large wood dam (in channel and across entire channel): RECORD AS COUNT		
Non-native invasive plant species	Submerged tree roots	A / T / P / E			
	Trees/shrubs/saplings growing on river bed	A / T / P / E	Fallen trees (ONLY those with a significant proportion in channel): RECORD AS COUNT		
	Large wood in channel (pieces > 2m long, > 10 cm wide)	A / T / P / E			
	Discrete accumulations of organic material in channel (e.g. twigs, leaves)	A / T / P / E			
	Himalayan balsam	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	
	Japanese knotweed	A / T / P / E			
	Giant hogweed	A / T / P / E	Other: RECORD SPECIES NAME	A / T / P / E	
	Floating pennywort	A / T / P / E			

