

9.0 SUMMARY AND RESIDUAL EFFECTS

Introduction

- 9.1 This chapter summarises the mitigation measures and residual effects identified in each of the technical assessments included in the ES, which has been prepared to accompany two applications with full details for the proposed development Yield Hall Place 1 and 2, located at the Oracle Shopping Centre in Reading town centre for residential, retail and leisure uses.

Mitigation Measures

- 9.2 The Development has been subject to an iterative design process. As this process progressed, measures have been incorporated into the Development in order to avoid, reduce or offset significant environmental effects. These include:
- Landscape proposals including residential amenity space, a green roof and public realm improvements which include tree planting;
 - A drainage strategy which incorporates SuDS; and
 - Consideration of scale and massing, design quality and contextual response; and
 - Incorporation of sustainability principles.
- 9.3 Following assessment of the Development, additional mitigation measures have been proposed to be secured and implemented. These are set out in Table 9.1 (Yield Hall Place 1) and Table 9.2 (Yield Hall Place 2) below along with the residual effects of the Development following mitigation.

Table 9.1: Table of Significance for Yield Hall Place 1

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
Biodiversity (Chapter 06)			
Construction	Holy Brook LWS (County)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.
	River Kennet/Kennet and Avon Canal LWS (County)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.
	Cow Lane Depot LWS (County)	None required	None
	The Coal, Kennetmouth and Kings Meadow East LWS (County)	None required	None
	Fobney and Kennet Valley Meadows LWS (County)	None required	None
	Whiteley Park Farm/ St Patrick's Hill LWS (County)	None required	None
	Henley Road Gravel Pit LWS (County)	None required	None
	The Warren Woodlands Complex LWS (County)	None required	None
	Dingley Dell Proposed LWS (County)	None required	None
	Bare ground (Negligible)	None	None
	Buildings (Negligible)	None	None
	Dense Scrub (Local)	Production of a CEMP/ LEMP which will include pollution prevention measures during construction and details how the habitat will be managed during the operational phase of the Development.	None should mitigation measures recommended be enacted.
	Hardstanding (Negligible)	None.	None.
	Ornamental planting (Negligible)	None required	None
	Scattered trees (Local)	Mitigation will be in the form of scattered tree planting. The production of a LEMP will provide guidelines which will ensure that these planted trees are maintained during the operational phase of Yield Hall Place 1.	None should mitigation measures recommended be enacted.
	River Kennet (adjacent to Site) (Local)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
	Bats (Local)	Mitigation will be the creation of a CEMP/LEMP and lighting strategy.	None should mitigation measures recommended be enforced.
	Birds (Negligible)	Sensitive timing of works.	None should mitigation measures recommended be enforced.
	Invertebrates (Local)	Mitigation will be the creation of a CEMP/LEMP.	None should mitigation measures recommended be enforced.
	Otters (Negligible)	None required	None
Operation	Holy Brook LWS (National)	None required	Negligible
	River Kennet/Kennet and Avon Canal LWS (National)	None required	Negligible
	Cow Lane Depot LWS (County)	None required	None
	The Coal, Kennetmouth and Kings Meadow East LWS (County)	None required	None
	Fobney and Kennet Valley Meadows LWS (County)	None required	None
	Whiteley Park Farm/ St Patrick's Hill LWS (County)	None required	None
	Henley Road Gravel Pit LWS (County)	None required	None
	The Warren Woodlands Complex LWS (County)	None required	None
	Dingley Dell Proposed LWS (County)	None required	None
	Bare ground (Negligible)	None required	None
	Buildings (Negligible)	None required	None
	Dense Scrub (Local)	Adoption of sensitive vegetation management techniques in LEMP	None
	Hardstanding (Negligible)	None required	None
	Ornamental planting (Negligible)	None required	None
	Scattered trees (Local)	None required	None
	River Kennet (adjacent to Site)	None required	None should mitigation measures recommended be enacted.
	General (created habitats)	Adoption of sensitive vegetation management techniques in LEMP	Negligible
	Bats (Local)	Adoption of sensitive lighting scheme and adherence to measures agreed	Negligible
	Birds (Negligible)	Adoption of sensitive vegetation management techniques in LEMP	Negligible

Phase	Effect/ Receptor		Mitigation	Residual Significance (Significant Effects in Bold)	
	Invertebrates (Negligible)		Adoption of sensitive vegetation management techniques in LEMP	Negligible	
	Otters (Negligible)		None required	None	
Water Resources and Flood Risk (Chapter 7)					
Construction	Impact on fluvial flooding (River Kennet & Holy Brook)		CEMP and temporary works to control construction impacts.	Negligible Adverse	Slight (not significant)
	Impact on surface water flooding		CEMP and temporary works to control construction impacts.		
	Impact on surface water quality		Pollution and control measures in CEMP to control construction impacts.		
	Impact on groundwater quality		Pollution and control measures in CEMP to control construction impacts.		
Operation	Impact on fluvial flooding (River Kennet & Holy Brook)		Development restricted to Flood Zone 1 and SuDS to mitigate rainfall runoff into receiving watercourses and reduce flood risk.	Negligible	Slight (not significant)
	Impact on surface water flooding		SuDS to reduce surface water discharge to greenfield or lower rates		
	Impact on surface water and groundwater quality		SuDS & provision of sewer capacity as necessary for development		
Built Heritage, Townscape and Visual (Chapter 8)					
Construction	Built Heritage Receptors	Conservation Area: Market Place / London Street	N/A	Not Significant Slight Adverse	
	Townscape Receptors	TCA18 – The Oracle	N/A	Not Significant Slight Adverse	
Operation	Built Heritage Receptors	Listed Building: Nos.2-4 London Street (Grade II)	N/A	Not Significant Slight Adverse	
		Listed Building: Coroner's Court, London Street (Grade II)	N/A	Not Significant Neutral Neutral	
		Listed Building & Scheduled Monument: High Bridge (Grade II & N/A)	N/A	Not Significant Neutral Neutral	

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
		Listed Buildings: Nos.33, 35, 37-39, 41, 49-53, 44-46, 48-52, 54-58, 62.66, 68, 70, 72, 74-76, 80, 86 & 88 London Street (all Grade II)	Not Significant Slight Adverse
		Listed Building: Nos.24-52 Queen's Crescent (Grade II)	Not Significant Neutral Neutral
		Listed Buildings: The George Hotel, King Street & Building on south-east corner, Yield Hall Place (both Grade II)	Not Significant Neutral Neutral
		Listed Buildings: Nos.48-49, 50-51 & 52 Market Place (including No.10 High Street) (all Grade II)	Not Significant Slight Adverse
		Listed Building: Church of St Laurence (Grade I)	Not Significant Neutral Neutral
		Listed Building: Telephone Exchange, Minster Street (Grade II)	Not Significant Neutral Neutral
		Listed Building: Church of St Mary, St Mary's Butts (Grade I)	Not Significant Slight Adverse
		Listed Building: Church of St Giles, Southampton Street (Grade II)	Not Significant Neutral Neutral
		Conservation Area: Market Place / London Street	Not Significant Slight Adverse
		Conservation Area: St Mary's Butts / Castle Street	Not Significant Neutral Neutral
	Townscape Character Receptors	TCA18 – The Oracle	Significant Moderate to Minor Beneficial

Phase	Effect/ Receptor		Mitigation	Residual Significance (Significant Effects in Bold)
		TCA6 – St. Lawrence and Market Place	N/A	Not Significant Minor Neutral
		TCA20 – London Street	N/A	Not Significant Minor Neutral
		TCA17 – St Mary's and Castle Street	N/A	Not Significant Negligible Neutral
		TCA21 – Forbury South	N/A	Not Significant Negligible Neutral
		TCA26 – King's Road	N/A	Not Significant Negligible Neutral
	Visual Receptors	Road users on main routes, such as London Road, Southampton Street and Whitley Street running north-south, and Queens Road (including the IDR) running east-west, also including key crossings of the River Kennet.	N/A	Significant Varies from Moderate to Minor Varies from Neutral to Beneficial
		Users of other local or secondary roads, streets and spaces within the town centre area, including the pedestrianised riverside area of The Oracle development.	N/A	Significant Varies from Moderate to Minor Varies from Neutral to Beneficial
		Users of River Kennet / Kennet and Avon Canal and other associated waterways / towpaths / bridges	N/A	Significant Varies from Moderate to Minor Varies from Neutral to Beneficial
		Users of public open spaces, such as Market Place and St Mary's Churchyard, and the Mapledurham Estate	N/A	Not Significant Varies from Minor to Negligible Varies from Neutral to Beneficial
		Existing local residents within established housing areas to the	N/A	Not Significant Varies from Minor to Negligible

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
	south and west of the Site (beyond the IDR).		Varies from Neutral to Beneficial

Table 9.2: Table of Significance for Yield Hall Place 2

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
Biodiversity (Chapter 06)			
Construction	Holy Brook LWS (County)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.
	River Kennet/Kennet and Avon Canal LWS (County)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.
	Cow Lane Depot LWS (County)	None required	None
	The Coal, Kennetmouth and Kings Meadow East LWS (County)	None required	None
	Fobney and Kennet Valley Meadows LWS (County)	None required	None
	Whiteley Park Farm/ St Patrick's Hill LWS (County)	None required	None
	Henley Road Gravel Pit LWS (County)	None required	None
	The Warren Woodlands Complex LWS (County)	None required	None
	Dingley Dell Proposed LWS (County)	None required	None
	Bare ground (Negligible)	None	None
	Buildings (Negligible)	None	None
	Dense Scrub (Local)	Production of a CEMP/ LEMP which will include pollution prevention measures during construction and details how the habitat will be managed during the operational phase of the Development.	None should mitigation measures recommended be enacted.
	Hardstanding (Negligible)	None.	None.
	Ornamental planting (Negligible)	None required	None
	Scattered trees (Local)	Mitigation will be in the form of scattered tree planting. The production of a LEMP will provide guidelines which will	None should mitigation measures recommended be enacted.

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
		ensure that these planted trees are maintained during the operational phase of Yield Hall Place 1.	
	River Kennet (adjacent to Site) (Local)	Mitigation will be in the form of a CEMP/ LEMP which will include pollution prevention measures. These pollution measures will provide guidelines on how air, dust and run off will be prevented.	None should mitigation measures recommended be enacted.
	Bats (Local)	Mitigation will be the creation of a CEMP/LEMP and lighting strategy.	None should mitigation measures recommended be enforced.
	Birds (Negligible)	Sensitive timing of works.	None should mitigation measures recommended be enforced.
	Invertebrates (Local)	Mitigation will be the creation of a CEMP/LEMP.	None should mitigation measures recommended be enforced.
	Otters (Negligible)	None required	None
Operation	Holy Brook LWS (National)	None required	Negligible
	River Kennet/Kennet and Avon Canal LWS (National)	None required	Negligible
	Cow Lane Depot LWS (County)	None required	None
	The Coal, Kennetmouth and Kings Meadow East LWS (County)	None required	None
	Fobney and Kennet Valley Meadows LWS (County)	None required	None
	Whiteley Park Farm/ St Patrick's Hill LWS (County)	None required	None
	Henley Road Gravel Pit LWS (County)	None required	None
	The Warren Woodlands Complex LWS (County)	None required	None
	Dingley Dell Proposed LWS (County)	None required	None
	Bare ground (Negligible)	None required	None
	Buildings (Negligible)	None required	None
	Dense Scrub (Local)	Adoption of sensitive vegetation management techniques in LEMP	None
	Hardstanding (Negligible)	None required	None
	Ornamental planting (Negligible)	None required	None
	Scattered trees (Local)	None required	None
	River Kennet (adjacent to Site)	None required	None should mitigation measures recommended be enacted.

Phase	Effect/ Receptor		Mitigation	Residual Significance (Significant Effects in Bold)	
	General (created habitats)		Adoption of sensitive vegetation management techniques in LEMP	Negligible	
	Bats (Local)		Adoption of sensitive lighting scheme and adherence to measures agreed	Negligible	
	Birds (Negligible)		Adoption of sensitive vegetation management techniques in LEMP	Negligible	
	Invertebrates (Negligible)		Adoption of sensitive vegetation management techniques in LEMP	Negligible	
	Otters (Negligible)		None required	None	
Water Resources and Flood Risk (Chapter 7)					
Construction	Impact on fluvial flooding (River Kennet & Holy Brook)		CEMP and temporary works to control construction impacts.	Negligible Adverse	Slight (not significant)
	Impact on surface water flooding		CEMP and temporary works to control construction impacts.		
	Impact on surface water quality		Pollution and control measures in CEMP to control construction impacts.		
	Impact on groundwater quality		Pollution and control measures in CEMP to control construction impacts.		
Operation	Impact on fluvial flooding (River Kennet & Holy Brook)		Development restricted to Flood Zone 1 and SuDS to mitigate rainfall runoff into receiving watercourses and reduce flood risk.	Negligible	Slight (not significant)
	Impact on surface water flooding		SuDS to reduce surface water discharge to greenfield or lower rates		
	Impact on surface water and groundwater quality		SuDS & provision of sewer capacity as necessary for development		
Built Heritage, Townscape and Visual (Chapter 8)					
Construction	Built Heritage Receptors	Conservation Area: Market Place / London Street	N/A	Not Significant Slight Adverse	
	Townscape Receptors	TCA18 – The Oracle	N/A	Not Significant Minor Adverse	
Operation	Built Heritage Receptors	Listed Building: Nos.2-4 London Street (Grade II)	N/A	Not Significant Slight Adverse	

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
	Listed Building: Coroner's Court, London Street (Grade II)	N/A	Not Significant Neutral Neutral
	Listed Building & Scheduled Monument: High Bridge (Grade II & N/A)	N/A	Not Significant Neutral Neutral
	Listed Buildings: Nos.33, 35, 37-39, 41, 49-53, 44-46, 48-52, 54-58, 62.66, 68, 70, 72, 74-76, 80, 86 & 88 London Street (all Grade II)	N/A	Not Significant Slight Adverse
	Listed Building: Nos.24-52 Queen's Crescent (Grade II)	N/A	Not Significant Neutral Neutral
	Listed Buildings: The George Hotel, King Street & Building on south-east corner, Yield Hall Place (both Grade II)	N/A	Not Significant Neutral Neutral
	Listed Buildings: Nos.48-49, 50-51 & 52 Market Place (including No.10 High Street) (all Grade II)	N/A	Not Significant Slight Adverse
	Listed Building: Church of St Laurence (Grade I)	N/A	Not Significant Neutral Neutral
	Listed Building: Telephone Exchange, Minster Street (Grade II)	N/A	Not Significant Neutral Neutral
	Listed Building: Church of St Mary, St Mary's Butts (Grade I)	N/A	Not Significant Slight Adverse
	Listed Building: Church of St Giles, Southampton Street (Grade II)	N/A	Not Significant Neutral Neutral
	Conservation Area: Market Place / London Street	N/A	Not Significant Slight Adverse

Phase	Effect/ Receptor		Mitigation	Residual Significance (Significant Effects in Bold)
		Conservation Area: St Mary's Butts / Castle Street	N/A	Not Significant Neutral Neutral
	Townscape Character Receptors	TCA18 – The Oracle	N/A	Significant Moderate to Minor Beneficial
		TCA6 – St. Lawrence and Market Place	N/A	Not Significant Minor Neutral
		TCA20 – London Street	N/A	Not Significant Minor Neutral
		TCA17 – St Mary's and Castle Street	N/A	Not Significant Negligible Neutral
		TCA21 – Forbury South	N/A	Not Significant Negligible Neutral
		TCA26 – King's Road	N/A	Not Significant Negligible Neutral
	Visual Receptors	Road users on main routes, such as London Road, Southampton Street and Whitley Street running north-south, and Queens Road (including the IDR) running east-west, also including key crossings of the River Kennet.	N/A	Significant Varies from Moderate to Minor Varies from Neutral to Beneficial
		Users of other local or secondary roads, streets and spaces within the town centre area, including the pedestrianised riverside area of The Oracle development.	N/A	Significant Varies from Moderate to Minor Varies from Neutral to Beneficial
		Users of River Kennet / Kennet and Avon Canal and other associated waterways / towpaths / bridges	N/A	Significant Varies from Moderate to Minor

Phase	Effect/ Receptor	Mitigation	Residual Significance (Significant Effects in Bold)
			Varies from Neutral to Beneficial
	Users of public open spaces, such as Market Place and St Mary's Churchyard, and the Mapledurham Estate	N/A	Not Significant Varies from Minor to Negligible Varies from Neutral to Beneficial
	Existing local residents within established housing areas to the south and west of the Site (beyond the IDR).	N/A	Not Significant Varies from Minor to Negligible Varies from Neutral to Beneficial

Interactive Effects

- 9.1 Regulation 4 (2) states that an ES must include a description of the aspects of the environment likely to be significantly affected by the Development and the interrelationship between these effects. There is no published methodology for determining the significance of interactive or synergistic effects. Combining effects with respect to one environmental discipline with another has to be qualitative and is necessarily based on judgment. Therefore, a matrix system has been used to indicate where such effects would likely occur for the construction and operational phases, highlighting where effects occur to a common receptor. This has been informed by the residual effects of the Development (as identified above in Table 9.1) and professional judgment. The findings of this exercise are set out in Table 9.2 below.

Table 9.2: Interactive Effects

Effect	Local Population and Site Users	Heritage, Townscape and Views	Water Resources	Biodiversity
Construction				
Loss of habitat and planting		*	*	*
Effects of construction dust and air quality	*		*	*
Disturbance of built heritage assets	*	*		
Operation				
Planting and habitat provision		*		*
Views of the Development	*	*		
Overshadowing of the River Kennet			*	*

- 9.2 Appropriate mitigation during the construction phase has been identified in the ES as necessary, such as best practice measures to reduce or eliminate potential adverse environmental effects of construction as far as possible. Furthermore, Chapter 5, Construction Methodology and Phasing Chapter proposes a programme and approach to works which will ensure that the Development would be implemented in the most efficient and least intrusive manner. This includes measures set out and secured through the implementation of the CEMP for the Development (see Chapter 5 for further details). Relevant legislative requirements would also be adhered to.
- 9.3 During the construction and operational phases of the Development, it is considered that interactions could potentially occur as set out in Table 9.2. It is considered that interactive effects during construction on the surrounding area will be minor and not significant. Any significant adverse effects would be temporary in duration and are likely to be associated only with the peak periods of construction activity. It is considered that the interactive effects during operation of the Development on the surrounding area will be minor and not significant.

Cumulative Effects Summary

- 9.4 Each of the technical assessments considers the likely significant cumulative effects of the Development with the cumulative schemes set out in Chapter 2.
- 9.5 The technical assessments identified the following significant cumulative effects from assessing Yield Hall Place 1 and Yield Hall Place 2:

Construction

- None identified.

Operation

- A significant moderate to minor beneficial effect on TCA18- The Oracle (a townscape character receptor)
- Significant moderate to minor neutral to beneficial effects on road users on main roads, other local roads and users of the River Kennet and other associated waterways (visual receptors)

9.6 The technical assessments identified the following significant cumulative effects from the Development (Yield Hall Place 1 and Yield Hall Place 2), and other schemes identified in Table 2.6 of Chapter 2:

Construction

- None identified.

Operation

- A significant moderate to minor beneficial effect on TCA18- The Oracle (a townscape character receptor)
- Significant moderate to minor neutral to beneficial effects on road users on main roads, other local roads and users of the River Kennet and other associated waterways (visual receptors)

Summary/Conclusions

9.7 The Development will result in the following significant adverse effects:

Construction

- None identified.

Operation

- None identified.

9.8 The Development will result in the following significant beneficial effects:

Construction

- None identified.

Operation

- A significant moderate to minor beneficial effect on TCA18- The Oracle (a townscape character receptor)
- Significant moderate to minor neutral to beneficial effects on road users on main roads, other local roads and users of the River Kennet and other associated waterways (visual receptors)