



Waterfront Square, Reading Berkshire

River Condition Assessment Survey Report

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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Executive Summary

Introduction	The Environment Partnership (TEP) was commissioned by Packaged Living to undertake a River Condition Assessment (RCA) of the River Thames adjacent to a site known as Waterfront Square in Reading, to provide a watercourse baseline to inform a BNG assessment of a proposed residential development on site.
Methods	An RCA survey was undertaken in January 2025. The RCA comprised a Modular River Physical (MoRPh) survey and a River Type desk study.
Key Constraints	The Thames is a large river, which represents a constraint to the MoRPh survey methodology.
Results	The final condition for the Thames is Poor. The riparian zone encroachment is Major for the left bank and Major for the right bank. The watercourse encroachment is Major.
Conclusions	A detailed comparison of the on-site baseline with a post-development scenario has been undertaken. There will be no change post-development in watercourse units. However, a 10% net gain in watercourse units will still be required to be delivered by the proposals as there are watercourse units within the baseline. An additional 0.01 watercourse units will be required to deliver a 10% net gain. It is not considered feasible to deliver these units through on-site enhancement and as such off-site solutions will be required. Off-site solutions could involve creation of a ditch or enhancement of an off-site river or stream. Alternatively, watercourse units could be purchased from a biodiversity unit provider or, as a last result, Statutory Biodiversity Credits could be purchased. Any off-site habitat creation or enhancement will need to be secured through legal agreement and have an associated habitat management and monitoring plan covering a period of at least 30 years.

This Executive Summary is not a substitute for the full report. Refer to the full text of this report for further detail.

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1.0 Introduction

Commission

- 1.1 The Environment Partnership (TEP) was commissioned by Packaged Living to carry out a River Condition Assessment (RCA) for a proposed residential development at Waterfront Square, Reading (hereafter referred to as the 'site').

Background

- 1.2 TEP have previously produced a Biodiversity Net Gain Report regarding the proposals (TEP Ref: 10179.003), which accompanied a planning application to Reading Borough Council for the site (planning ref: PL/24/0958).
- 1.3 The BNG Report did not include an assessment of watercourse units. Although the River Thames itself lies outside of the red line boundary for the site, the bank top of the Thames is within 10m of the site. As such, following a review of the BNG assessment, Reading Borough Council as the local planning authority requested that a watercourse assessment was undertaken.
- 1.4 TEP was subsequently appointed to complete this assessment.
- 1.5 The purpose of this report is to provide a detailed assessment of the watercourse condition of the River Thames adjacent to the site and to assess the impact of the proposals on watercourse units.
- 1.6 The RCA combines field and desk-based information to determine a condition score for the watercourse which will ultimately feed into the watercourse component of the Statutory Biodiversity Metric.

Site Description

- 1.7 The site lies to the south of the River Thames in the centre of Reading, Berkshire. The footprint of the site measures approximately 0.54ha. The site is bordered by the River Thames to the north, Vastern Road to the south, and residential and commercial development to the east and west.
- 1.8 The River Thames is identified as a statutory main river.
- 1.9 The location of the River Thames within the context of the site is shown on Drawing G10179.013 MoRPh River Survey Location Plan.

Objectives

- 1.10 This report details the surveys undertaken to establish a baseline position for the condition of the watercourse using the Modular River Physical (MoRPh) survey methodology and recommendations for maintenance and enhancement.
- 1.11 The aims of this report are to:
- Set out the methods used to assess the baseline condition of the watercourse.
 - Provide a baseline condition of the watercourse.
 - Provide an assessment of the change in watercourse units as a result of the proposals.
 - Provide a breakdown of how a 10% net gain in watercourse units could be achieved.

Proposed Development

- 1.12 Proposals entail demolition of the existing office and substation buildings on-site and residential-led redevelopment of the site with associated landscaping and public open space.
- 1.13 Proposals are shown on the Landscape Proposals Ground Floor Plan, produced by Assael, dated July 2024 (drawing ref: A4012E-ASA-XX-00-DR-L-0200-PL1).

2.0 Methods

- 2.1 A pre-development RCA of the River Thames was undertaken by a TEP RCA accredited ecologist. The RCA comprised a Modular River Physical (MoRPh) survey and a River Type desk study. The RCA was undertaken in accordance with the MoRPh Survey Technical Reference Manual¹ and the Guide to Assessing River Condition².

Watercourse Categorisation

- 2.2 The watercourse was compared against the descriptions within the Statutory Biodiversity Metric User Guide³ to assess whether they meet the criteria of a watercourse which would require RCA. Ditches and culverts do not require RCA, but priority habitat watercourses, other rivers and streams, and canals do require RCA. The definitions of each of these watercourse types are provided within the Statutory Biodiversity Metric User Guide.

MoRPh Survey

- 2.3 The MoRPh survey was undertaken by the accredited ecologist and a health and safety assistant on 22nd January 2025. The survey entails collecting information along the watercourse in a series of 'modules'. The module length is determined by the MoRPh river width, as per Table 1. Sets of five contiguous modules were recorded, one for each subreach, to create a series of 'MoRPh5' locations (five contiguous MoRPh surveys).

Table 1: Determining Your Module Length (adapted from MoRPh Field Survey Sheet⁴)

River Width (m)	Module length (m)
<5m	10m
5 to <10m	20m
10 to <20m	30m
20 to <30m	40m
Large and navigable rivers and canals >30m	50m

¹ Gurnell, A. and Shuker, L. (2022) The MoRPh Survey Technical Reference Manual 2022 version.

² Gurnell, A., England, J., Scott, S., and Shuker, L. (2022) A Guide to Assessing River Condition. Part of the Rivers and Streams Component of the BioDiversity Net Gain Metric.

³ DEFRA (2024) The Statutory Biodiversity Metric User Guide

⁴ Modular River Survey (2024) MoRPh Survey Sheets v14

- 2.4 MoRPh5 surveys are repeated so that a minimum of 20% of the length of watercourse within the proposed red line boundary is surveyed. The survey design for the River Thames is outlined in Table 2 below.

Table 2: MoRPh Survey Design

Watercourse	Approximate Length Adjacent to Site Boundary (m)	20% of Length (m)	River Width	Module Length	Number of MoRPh5 Surveys Required	Length of Watercourse Surveyed (m)
River Thames	50m	10m	>30m	50m	1	250m

- 2.5 The MoRPh survey characterises the channel, banks and immediate bank tops (to 10 m from the bank top edge) of a watercourse. The survey records the extent and character of bank and bed sediments, morphological and hydraulic features/habitats, riparian and aquatic vegetation extent and structure, presence and extent of non-native invasive plant species, bank top land use pressures and human interventions within the river channel. Once the survey was completed the data was entered into the Cartographer website⁵ to generate a preliminary RCA condition score.

River Type Survey

- 2.6 A River Type desk study was then undertaken by the RCA accredited ecologist. The River Type is assessed using eight indicators extracted from a desk study of the reach within which the study site is located and bed material information derived from the MoRPh survey results. The Cartographer website is then used to conduct the necessary analyses to provide the final RCA condition score.

River Condition

- 2.7 The river condition results are provided by Cartographer as a result of combining the MoRPh survey results and the River Type survey results. A preliminary condition score and final condition class are provided for each subreach.

Overdeepening

- 2.8 Many watercourses within England suffer from a legacy of channel modifications. One example of this is the existence of channels that are ‘overdeep’, such that they are

⁵ Cartographer Studios Ltd (2024) *Cartographer*

hydrologically and ecologically disconnected to some degree to their bank tops and floodplain. Overdeep channels may support a diverse range of physical habitats but if these are hydrologically disconnected to some degree it reduces their potential to support biodiversity.

- 2.9 Within the RCA, an assessment of overdeepening can be made based on the river shape index calculated within Cartographer. If river shape has a value of less ≤ 2 then the channel is highly likely to be overdeep. If river shape has a value of less ≤ 4 then the channel is likely to be overdeep.
- 2.10 In accordance with the Guide to Assessing River Condition, where a channel is overdeep the final condition class should be reduced by one class (e.g. from Good to Fairly Good, or Moderate to Fairly Poor).
- 2.11 An assessment of whether the channel is overdeep was undertaken to identify whether the final RCA condition score should be reduced by one condition class.

Encroachment

- 2.12 Watercourse encroachment and riparian zone encroachment were recorded for each of the MoRPh5 subreaches, in line with the definitions outlined within the Statutory Biodiversity Metric User Guide. Following this, overall encroachments were assigned for the whole watercourse based on the sample results of the MoRPh5 subreaches.

Strategic Significance

- 2.13 Strategic significance was determined through a thorough desktop review of local planning policy and other relevant documentation. This includes biodiversity policies and the policies map within the Reading Borough Council Local Plan, adopted November 2019.
- 2.14 Strategic significance utilises published local strategies and objectives to identify local priorities for targeting biodiversity and nature improvement. Strategic significance will be high if the habitat location is identified in local plans, strategies, or policies. Medium strategic significance should be used where habitat was deemed ecologically desirable for a particular habitat type such as acting as a wildlife corridor or buffer.

Limitations

- 2.15 The River Thames is a large river over 30m wide. For large rivers, visibility of the channel bed is limited. As stated in the MoRPh Survey Technical Reference Manual, a reduced

MoRPh survey is possible, focusing on the bank tops and bank faces. This was the approach adopted in this case.

- 2.16 The survey was undertaken in January. The RCA method states that the field survey should be undertaken in periods of low flow (i.e. in periods of low rainfall) and when aquatic vegetation is visible but not obscuring physical river features. In practice this is usually the case in late spring or autumn. The main reasoning for the survey being recommended to be undertaken in periods of low flow is so the channel bed is visible. However, as stated above the assessment of the channel bed is already limited by the size of the Thames. As such, the time of year the survey was undertaken is not considered a significant limitation, as the channel bed and aquatic vegetation would not be visible at any time of year.
- 2.17 An accurate assessment of overdeepening was not possible, due to it not being possible to obtain the depth of the river due to its size. As such, no assessment of overdeepening has been undertaken.

3.0 Results

Watercourse Categorisation

- 3.1 The River Thames in Reading is not identified as a priority river habitat on Natural England's open-source dataset⁶.
- 3.2 The Thames is identified as a statutory main river and as such the classification of 'other rivers and streams' has been applied.

MoRPh Survey

- 3.3 One MoRPh5 survey was undertaken covering a total survey length of 250m.
- 3.4 The location of the MoRPh5 survey extent is shown on Drawing G10179.013 MoRPh River Survey Location Plan.
- 3.5 Full MoRPh5 survey results are provided within Annex A.
- 3.6 Representative photos from the MoRPh5 survey are provided in Figure 1 and Figure 2 below.

⁶ Natural England (2023) Priority River Habitat – Rivers (England) *Priority River Habitat - Rivers (England)* | *Natural England Open Data Geoportal*



Figure 1: MoRPh5 Subreach Looking Downstream



Figure 2: MoRPh5 Subreach Looking Upstream

River Type Survey

- 3.7 Given the size of the Thames, a detailed River Type assessment has not been undertaken. The river has been auto-assigned a final River Type of 'Large'.

River Condition

- 3.8 The preliminary condition score and final condition class for each MoRPh5 subreach are shown in Table 3 below. The river has a final condition class of Poor.

Overdeepening

- 3.9 The river shape value of the MoRPh5 subreach is provided in Table 3 below.
- 3.10 Given the size of the Thames, an accurate measurement of the depth of the river was not possible to obtain. Therefore, although a river shape value has been acquired, this is not considered to be accurate. As such, no overdeepening assessment has been undertaken and the river is assumed to not be overdeep.
- 3.11 The river recorded a final condition class of Poor (Table 3). No reduction in condition due to overdeepening has been applied.

Table 3: River Condition and Overdeepening Results

MoRPh5 Subreach	Preliminary Condition Score	Final Condition Class	River Shape Value	Amended Condition Following Overdeepening Assessment
Subreach 1	-0.773	Poor	9.091	Poor

Encroachment

- 3.12 Encroachment results are provided in Table 4 below.

Table 4: Encroachment Results

MoRPh5 Subreach	Riparian Zone Encroachment		Watercourse Encroachment
	Left Bank	Right Bank	
Subreach 1	Major	Major	Major

⁷ The left bank is the bank on the left when looking downstream. The right bank is bank on the right when looking downstream.

- 3.13 At the location of the site, the River Thames is subject to high levels of riparian zone encroachment on both sides. There are established footpaths on both sides, and in accordance with the metric user guide, these are exempt from encroachment if recorded in the baseline. However, irrespective of this, on the right bank >25% of the riparian zone comprises buildings and hardstanding (not including the footpath). Additionally, on the left bank, there is encroachment at the eastern end associated with the bridge over the river. This is within 0 to 4m from the bank. As such, major riparian zone encroachment was assigned to both banks.
- 3.14 At the location of the site, the banks of the Thames are almost entirely engineered. As such, major watercourse encroachment has been assigned.

Strategic Significance

- 3.15 The River Thames is identified as an area of biodiversity interest in policy EN12 of Reading Borough Council's Local Plan. As such, the watercourse has been assigned high strategic significance.

Biodiversity Metric

- 3.16 The length of the Thames adjacent to the site boundary should be programmed into the Statutory Biodiversity Metric as a single line within the watercourse tab. This is **0.05km**.
- 3.17 The final condition for the Thames to be input into the metric is **Poor**.
- 3.18 The riparian zone encroachment is **Major for the left bank and Major for the right bank**.
- 3.19 The watercourse encroachment is **Major**.
- 3.20 Strategic significance is **High**.

4.0 Post-development Scenario

- 4.1 In order to assess the impact of the proposals on the watercourse, a post-development scenario was run. This was completed using the Cartographer website and involved amending the baseline MoRPh survey data in line with what is proposed.
- 4.2 The post development scenario was based on the Landscape Proposals Ground Floor Plan (drawing ref: A4012E-ASA-XX-00-DR-L-0200-PL1) and the habitat impacts and creation detailed within the BNG report (TEP Ref: 10179.003).
- 4.3 Full MoRPh5 post-development scenario results are provided within Annex A.

MoRPh Post-development Scenario

- 4.4 The MoRPh5 survey consists of five modules. Only one of these (Module 3) is actually adjacent to the site boundary, and as such only changes to indicators within Module 3 are possible. As the site is on the right bank of the River Thames, only changes to the right bank are possible.
- 4.5 The site boundary does not go right up to the bank face of the Thames; there is a gap between the site boundary and the bank face where the Thames path is located. As such, there will be no changes to the bank face or the channel bed indicators in the post-development scenario. Therefore, the only point at which any changes could occur as a result of the proposals is on the right bank top.
- 4.6 The proposals will result in the following impacts on the right bank top:
 - Loss of a single tree (T18) within 10m of the bank top
 - Loss of all areas of modified grassland within the site boundary that fall within 10m of the banktop (taken to be short creeping grasses within the context of RCA). Some areas of short creeping grasses outside of the site boundary but within 10m of the banktop will remain.
 - Loss of one very small area of introduced shrub within the site boundary that falls within 10m of the banktop. Some areas of scrub/shrub outside of the site boundary but within 10m of the banktop will remain.
- 4.7 The following habitats will be created within the site on the right bank top:
 - Planting of two trees within 10m of the bank top
 - Planting of introduced shrub within 10m of the bank top
- 4.8 The following net changes are anticipated to occur as a result of the proposals:

- Although a tree would be lost, replacement trees will be planted. Within Module 3 on the right bank top trees are recorded as 'present' within the baseline. This is not anticipated to change.
- Although small areas of short creeping grasses will be lost, there are areas of short creeping grasses outside of the red line boundary which would be unaffected. Within Module 3 on the right bank top short creeping grasses are recorded as 'present' within the baseline. The loss of the grassland is not anticipated to reduce this, as short creeping grasses will still cover >5% and <33% of the bank top area. Therefore, there will be no change in grassland abundance.
- Some introduced shrub will be lost, but some will also be created. Within Module 3 on the right bank top scrub/shrubs are recorded as 'present' within the baseline. This is not anticipated to change.

4.9 Overall, no changes are anticipated as a result of the proposals in respect of MoRPh indicators. Therefore, there would be no change to river condition.

4.10 Additionally, no change is anticipated to River Type, overdeepening, encroachment, or strategic significance.

Biodiversity Metric

4.11 There will be no change to the watercourse post-development, and the baseline watercourse units has therefore been assessed as retained within the Biodiversity Metric.

4.12 The full Statutory Biodiversity Metric is provided in Annex B (TEP Ref: 10179.002, V3.0).

4.13 The headline results from the metric are shown in Figure 3 below.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.12
	<i>Hedgerow units</i>	0.12
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	12.28%
	<i>Hedgerow units</i>	N/A
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

Figure 3: Headline Watercourse Results

4.14 Although there will be no change in watercourse units as a result of the proposals, as the on-site baseline contains watercourses, a 10% net gain in watercourse units will need to be demonstrated.

- 4.15 The on-site watercourse baseline provides 0.19 units. In order to deliver a 10% net gain, an additional 0.01 watercourse units are required to be delivered by the proposals, either on-site or off-site. Suggestions of how this may be achieved are provided in Chapter 5.0.

Exploring On-site Enhancement

- 4.16 One potential way of delivering watercourse units is to enhance a river, either through improving condition or reducing encroachment.
- 4.17 However, the current condition score of the River Thames adjacent to the site is -0.773, with the river currently being in Poor condition. The threshold at which the river would be in Fairly Poor condition, the next condition class up, is a condition score of -0.4⁸. This means that numerous changes to various different condition indicators would likely be required to be delivered in order for the river to reach the Fairly Poor condition. The client only has control of part of the bank top on one side of the river. Therefore, the possibility of improvements to condition indicators is extremely limited. Additionally, potential enhancements of the bank faces and river channels are limited, given the highly engineered banks, constrained location, and navigational use of the river. Even if the client was granted permission to be able to undertake enhancements within the river itself, it is highly unlikely that this would be sufficient to enhance the river sufficiently to Fairly Poor condition.
- 4.18 Additionally, it would not be possible or proportionate to reduce the riparian zone or watercourse encroachment, given the constrained location of the site and highly engineered banks. The areas immediately adjacent to the river are not in the control of the client. The only way to change riparian zone encroachment would be to divert the towpath away from the river, which would not be feasible.
- 4.19 Overall, it is considered that there is no possibility to enhance the river adjacent to the site, and as such off-site solutions would be required.

Off-site Options

- 4.20 Several options for providing watercourse units off-site to achieve a net gain are discussed below. Any off-site habitat creation or enhancement will need to be secured through legal agreement (such as s106 or a conservation covenant) and have an associated habitat management and monitoring plan covering a period of at least 30 years.

⁸ Modular River Survey (2024) Canals, Navigable Rivers And Large Rivers - Changes Made To RCA Computations From 2024 And Their Rationale

Creation of Off-site Ditch

- 4.21 As there is no change to the baseline, the habitat trading rules are satisfied and as such the additional watercourse units can be delivered as any watercourse habitat type. Therefore, ditch habitat could be created to deliver the units. If a suitable off-site location could be sourced to create a ditch in, this could deliver a 10% net gain. The ditch would need to be an artificially created linear water conveyancing feature, less than 5m wide, and hold water for more than four months of the year.
- 4.22 30m of ditch habitat would be required to be created to deliver a 10% net gain. This assumes the ditch to be in Poor condition, with low strategic significance, major watercourse encroachment and riparian zone encroachment on both banks and located outside of the operational catchment. Should any of these multipliers change the length of ditch required to deliver 10% net gain would change.
- 4.23 Watercourse units could also be delivered through enhancing an off-site ditch, but baseline data would need to be available for the ditch to assess whether enhancement is possible.

Enhancement of Off-site River or Stream

- 4.24 Watercourse units could be delivered through enhancement of a river or stream at a different location. However, this would require a baseline river condition assessment of the watercourse in question to be undertaken in order to assess whether enhancement is possible.

Purchase of Units from an Off-site Provider

- 4.25 The client could purchase watercourse units from an off-site provider (such as a habitat bank) should these be available. It is worth noting however that watercourse units may not be readily available for purchase.

Purchase of Statutory Biodiversity Credits

- 4.26 As a last resort, and once all other options are fully explored, the client could purchase Statutory Biodiversity Credits from the government. These must be purchased on at least a two for one basis, so for every unit of shortfall, at least two credits are required to be purchased. Should this option be pursued, justification would need to be provided as to why other watercourse creation or enhancement options are not possible.

5.0 Conclusions

- 5.1 A River Condition Assessment has been undertaken for the River Thames adjacent to the site.
- 5.2 Although there will be no change in watercourse units as a result of the proposals, as the on-site baseline contains a watercourse, a 10% net gain in watercourse units will need to be demonstrated, equivalent to 0.01 units.
- 5.3 Enhancement of the River Thames adjacent to the site is not considered feasible, but potential off-site watercourse creation or enhancement options have been recommended.
- 5.4 Once details on achieving a 10% net gain in watercourse units have been finalised, these will need to be included within a Biodiversity Gain Plan. The biodiversity metric calculation will also need to be updated.

Annex A: Detailed MoRPh5 Results

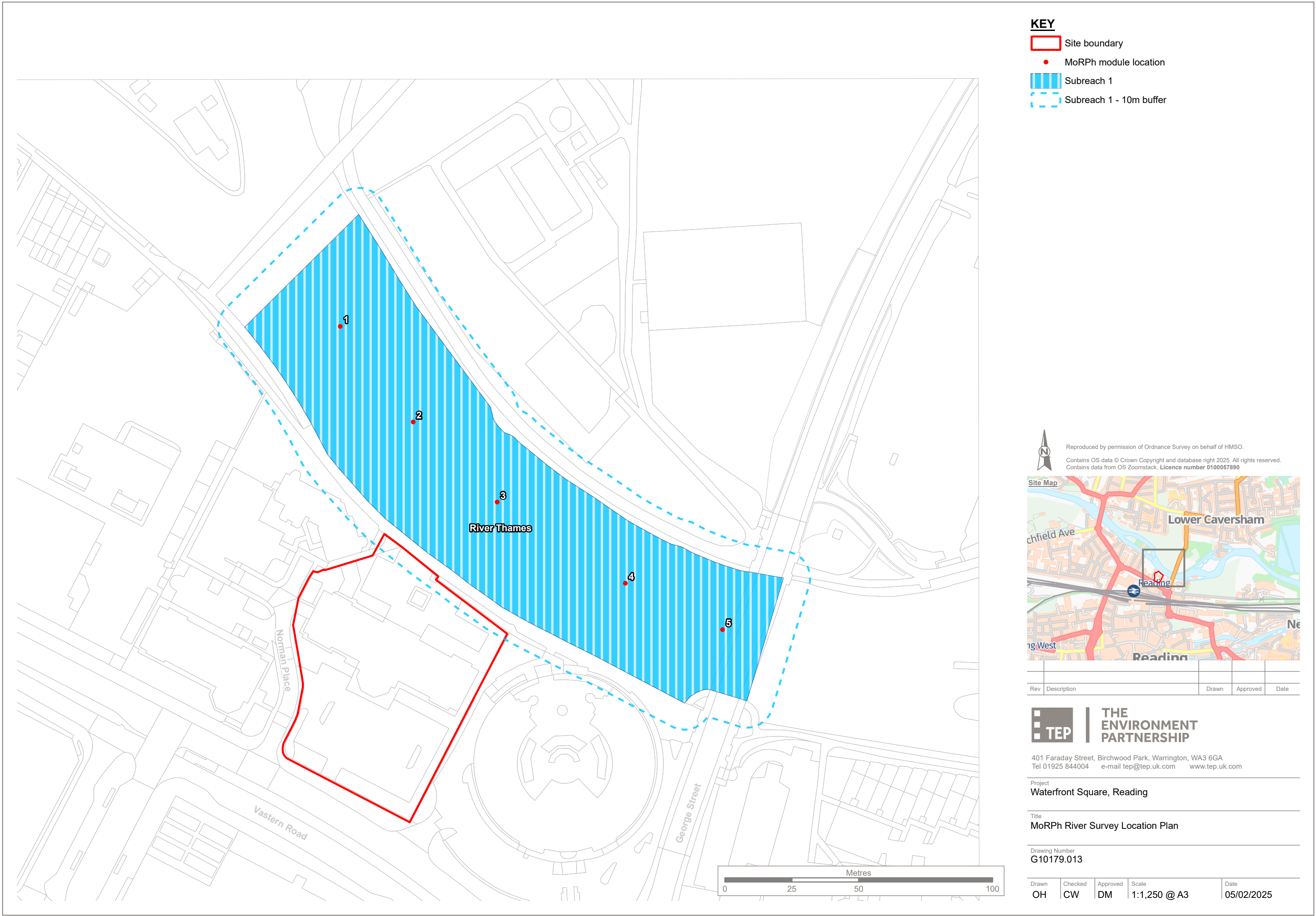
River Condition Assessment (RCA) Results for: Priority Rivers, Other rivers, Canals			
Site Name/Location	Norman Place, Reading	Unique river section reference	NP1
GPS of MoRPh5	SU 71694 74082	River section length	250m
Type of Assessment		Pre-project (Baseline)	
RCA River Type and Habitat Description for full river section			
Large river >30m across. River Thames running through Reading. Hardstanding footpaths either side with bridges at either end of the MoRPh5.			
Condition Assessment Criteria		RCA Index Values	Notes/Justification
RCA Index ID	RCA Index Name	Insert values -4 to 4. Highlight those > 2 or < 2.	Explain where significant the influence of high/low RCA indices on overall river condition
Bank Top			
B1	Bank top vegetation structure	3	Varied vegetation structure on banktops, with mosses, grasses, shrubs and trees
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	0	
B4	Bank top NNIPS cover	0	
B5	Bank top managed ground cover	-4	Large areas of hardstanding and buldings on bank top
Bank Face			
C1	Bank face riparian vegetation structure	2	
C2	Bank face tree feature richness	0	
C3	Bank face natural bank profile extent	1	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material	1	
C6	Bank face bare sediment extent	3	Lots of bare areas on banks
C7	Bank face artificial bank profile extent	-4	Banks mostly obviously reshaped
C8	Bank face reinforcement extent	-4	Banks heavily reinforced
C9	Bank face reinforcement material	-4	Banks heavily reinforced
C10	Bank face NNIPS cover	0	
Channel Margin			
D1	Channel margin aquatic vegetation	2	
D2	Channel margin aquatic morphotype	2	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature	0	
D5	Channel margin artificial features	-1	
Channel Bed			
E1	Channel aquatic morphotype richness	0	
E2	Channel bed tree features richness	0	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	0	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	-1	
E9	Channel bed reinforcement severity	-2	
E10	Channel bed artificial features severity	-1	
E11	Channel bed NNIPS extent	0	
E12	Channel bed filamentous algae extent	0	
River Condition Assessment Preliminary Score	-0.773	River Type and Class Bands	Large River
River Shape Index	9.091	Is the river channel Overdeep ?	N/A
River Condition Assessment Final Class	Poor	Is the final RCA class modified?	No
River Condition for Biodiversity Metric		Poor	

River Condition Assessment (RCA) Results for: Priority Rivers, Other rivers, Canals			
Site Name/Location	Norman Place, Reading	Unique river section reference	NP1
GPS of MoRph5	SU 71694 74082	River section length	250m
Type of Assessment		Scenario (post-development)	
RCA River Type and Habitat Description for full river section			
Large river >30m across. River Thames running through Reading. Hardstanding footpaths either side with bridges at either end of the MoRph5.			
Condition Assessment Criteria		RCA Index Values	Notes/Justification
RCA Index ID	RCA Index Name	Highlight where indicators have changed	Identify why indicators have changed
Bank Top			
B1	Bank top vegetation structure	3	
B2	Bank top tree feature richness	0	
B3	Bank top water-related featyures	0	
B4	Bank top NNIPS cover	0	
B5	Bank top managed ground cover	-4	
Bank Face			
C1	Bank face riparian vegetation structure	2	
C2	Bank face tree feature richness	0	
C3	Bank face natural bank profile extent	1	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material	1	
C6	Bank face bare sediment extent	3	
C7	Bank face artificial bank profile extent	-4	
C8	Bank face reinforcement extent	-4	
C9	Bank face reinforcement material	-4	
C10	Bank face NNIPS cover	0	
Channel Margin			
D1	Channel margin aquatic vegetation	2	
D2	Channel margin aquatic morphotype	2	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature	0	
D5	Channel margin artificial features	-1	
Channel Bed			
E1	Channel aquatic morphotype richness	0	
E2	Channel bed tree features richness	0	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	0	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	-1	
E9	Channel bed reinforcement severity	-2	
E10	Channel bed artificial features severity	-1	
E11	Channel bed NNIPS extent	0	
E12	Channel bed filamentous algae extent	0	
River Condition Assessment Preliminary Score	-0.773	River Type and Class Bands	Large River
River Shape Index	9.091	Is the river channel Overdeep ?	N/A
River Condition Assessment Final Class	Poor	Is the final RCA class modified?	No
Target Condition for Biodiversity Metric		Poor	
Notes			
No change compared to baseline			

Annex B: Statutory Biodiversity Metric (provided as separate document)

Drawings

Drawing 1: MoRPh River Survey Location Plan (Ref G10179.013)



KEY

- Site boundary
- MoRPh module location
- Subreach 1
- Subreach 1 - 10m buffer

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Site Map

Rev	Description	Drawn	Approved	Date

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Project
Waterfront Square, Reading

Title
MoRPh River Survey Location Plan

Drawing Number
G10179.013

Drawn	Checked	Approved	Scale	Date
OH	CW	DM	1:1,250 @ A3	05/02/2025

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