

Statement of Case

Appendix 19

Ecology Statement of Case – prepared by
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Statement of Case

55 Vastern Road, Reading

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For: Berkeley Homes (Oxford and Chiltern) Ltd, Berkeley House, Farnham Lane, Farnham
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1 Introduction

- 1.1 This Statement of Case has been prepared by Ecoconsult Ltd on behalf of Berkeley Homes Ltd (Oxford and Chiltern) ('the Appellants') who have submitted an appeal under Section 78 of the Town and Country Planning Act 1990 (as amended), following the refusal by Reading Borough Council ('RBC') to grant full planning permission in respect of planning application reference 200188 ('the Planning Application') by notice dated 9th April 2021.

Qualifications, experience and involvement with this case

- 1.2 I, Iain Corbyn am the Managing Director of Ecoconsult Ltd. I have worked in nature conservation for 34 years. My work has included habitat management, creation and restoration; ecological survey and monitoring; protected species mitigation and licensing; ecological impact assessment; and appearing as an expert witness at public inquiries. I have worked as the Consultant Ecologist for Reading Borough Council (and am therefore familiar with Reading Borough) and Aylesbury Vale District Council. Before establishing Ecoconsult in 2003, I was the Conservation Manager at the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT). Aspects of my work at BBOWT included establishing Local Sites systems in Berkshire, Buckinghamshire and Oxfordshire (which are referred to in Policy EN12) and managing otter and water vole recovery projects which were in partnership with the Environment Agency (EA).
- 1.3 In relation to Vastern Road, I have overseen the ecological surveys and reports (i.e. Phase 1 habitat survey and bat surveys) and wrote the Ecological Assessment submitted with the planning application. I have considered responses from Reading Borough Council's Consultant Ecologist and the EA, and participated in the conference call with the EA on 11 June 2020. I have considered the Council's reason for refusal 3. I have liaised with Berkeley Homes and Alex Clark of Salix River & Wetland Services Ltd in relation to the provision of appropriate habitat compensation.

The proposed development and Reason for refusal 3

- 1.4 The proposed development comprises: *'Demolition of existing structures and erection of a series of buildings ranging in height from 1 to 11 storeys, including residential dwellings (C3 use class) and leisure floorspace (A3 use class), together with a new north-south pedestrian link, connecting Christchurch Bridge to Vastern Road.'*

- 1.5 Reason for refusal 3 relates to ecology and shading of the Thames which states as follows:

'By virtue of its height, massing and proximity to the river, the development will shade the River Thames and impact on its marginal habitats with a lack of appropriate mitigation being demonstrated. There would also not be sufficient space within the riverside buffer for a sustainable long-term relationship between the riverside buildings and the required large canopy trees. The proposed development is therefore contrary to Policy EN11 in particular, and also Policies EN12, EN13, EN14, CC7, CR2, CR3, CR4 and CR11 of the Reading Borough Local Plan (2019), paragraph 175 of the National Planning Policy Framework (2019) and objectives of the adopted Reading Borough Council Tree Strategy (2021) and Reading Biodiversity Action Plan (2021).'

This statement of case

- 1.6 This statement of case builds upon the submissions provided to Reading Borough Council as part of the planning application and addresses part of the Council's reason for refusal 3 (RfR3).
- 1.7 RfR3 covers two areas of concern: a) impact to marginal habitats due to shade and whether appropriate mitigation has been demonstrated and b) the relationship with the buildings and large canopy trees within the riverside buffer. These have been separated in our response. Impacts to the River Thames marginal habitats due to shading are covered in this statement of case. The relationship between the buildings and large canopy trees within the riverside buffer is addressed in *55 Vastern Road, Reading, Arboricultural File Note – Riverside Tree Selection Suitability (May 2021)* prepared by Greengage.

2 Policy Background

2.1 RfR3 states that previous concerns raised by the RBC Ecology consultant remain unresolved in terms of the proposals being in conflict with Policy EN11 in particular, and also EN12, EN13, EN14, CC7, CR2, CR3, CR4 and CR11, paragraph 175 of the National Planning Policy Framework (2019) and objectives of the adopted Reading Borough Council Tree Strategy (2021) and Reading Biodiversity Action Plan (2021).

Policy EN11 – Waterspaces

2.2 Policy EN11 seeks to ensure that Reading's waterspaces are protected and enhanced. There should be no adverse impact on the functions and setting of any watercourse and its associated corridor. The policy sets out a list of seven criteria which it requires developments to meet. For the purposes of RfR3 it is considered that criteria (bullet points) 1, 2, 3, 5 and 6 are of relevance.

Policy EN12 – Biodiversity and the green network

2.3 Policy EN12 confirms that the Green Network includes sites with identified biodiversity interest, which specifically includes the River Thames. The Green Network will be maintained, protected, consolidated, extended and enhanced.

2.4 Policy EN12 requires that proposals should demonstrate how the location and type of green space, landscaping or water feature have been arranged to maintain links into the existing Green Network and contribute to its consolidation. Features should be designed to maximise the opportunities of enhancing the network.

2.5 Policy EN12 further requires that development should not result in a net loss of biodiversity and should provide net gain wherever possible. Developments should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements wherever practicable.

2.6 Policy EN12 states that where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot

be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.

Policy EN13 – Major landscape features and areas of outstanding natural beauty

- 2.7 Policy EN13 states that development must not detract from the character or appearance of a Major Landscape Feature which includes The Thames Valley.

Policy EN14 – Trees, hedges and woodlands

- 2.8 Policy EN14 states that important trees, hedges and woodlands will be protected and that new developments will make provision for tree retention and planting. Part of the reasons for this policy are to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change.

Policy CC7 – Design and the public realm

- 2.9 Policy CC7 states that development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located.
- 2.10 Policy CC7 sets out five components of development form, of which one is landscape and that these will be assessed to ensure developments makes a positive contribution to seven urban design objectives of which one is the quality of the public realm and provision of green infrastructure and landscaping.

Policy CR2 – Design in Central Reading

- 2.11 Policy CR2 requires development within Central Reading should demonstrate certain attributes. Attribute c. requires development to consider and, where possible, include ways of providing green infrastructure designed into the development, for instance through roof gardens, green walls and green roofs, to enhance the otherwise very urban environment.

Policy CR3 – Public realm in Central Reading

- 2.12 Policy CR3 states that new developments need to make a positive contribution towards the quality of the public realm of the central area.

Policy CR4 – Leisure, culture and tourism in central reading

- 2.13 Policy CR4 is concerned with leisure, cultural and tourism. The River Thames is a prime location for new or improved tourist attractions, and as such, this area is suitable for informal recreation and sporting uses and associated small-scale development, as well as improvements to management and access. Development is expected to conserve and enhance ecological value.

Policy CR11 – Station/River Major Opportunity Area

- 2.14 Policy CR11 sets out particular requirements for development within the Station/River Major Opportunity Area. CR11e states that a high quality route incorporating a green link should be provided through to the Thames. CR11g states that development should be set back at least ten metres from the top of the bank of the river.

National Planning Policy Framework (NPPF) (2019)

- 2.15 Paragraph 175 principle a) sets out the mitigation hierarchy which states that if significant harm to biodiversity cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

Reading Borough Council Tree Strategy (2021)

- 2.16 The tree strategy sets out the Council's strategy for trees in the Borough.

Reading Biodiversity Action Plan, March 2021

- 2.17 The creation of marginal vegetation is a valuable ecological enhancement and is highlighted in the council's Biodiversity Action Plan (Reading BAP).
- 2.18 The plan states on page 43 under 'Management of Parks':

'A number of Reading's parks have watercourses running through them. The watercourse and its banks do or could provide valuable habitat for wildlife. It will be important that these areas be managed sympathetically for wildlife, for example by allowing emergent vegetation and scrubby banks to develop and avoiding clearance where it is not needed.'

- 2.19 One of the stated objectives in Table 8 (page 47) is:

'To manage bankside vegetation sympathetically for wildlife'

With the respective action:

'Allow emergent vegetation and scrubby banks to develop by avoiding clearance where it is not needed'

The responsibility for action is:

'RBC – Parks'

- 2.20 The most relevant paragraphs are under 'F) The two rivers, their floodplain and other watercourses' on page 42:

'Urbanisation around watercourses, especially in and around the town centre, has resulted in artificial, hard river banks such as steel sheet piling, concrete or brick. Wherever possible these will be reinstated to natural banks and with a more natural profile, to restore river and riparian habitats.'

'Even if it's not possible to remove hard banks, there are still opportunities to establish marginal vegetation as has been done in Christchurch Meadow.'

- 2.21 In relation to the impact on the narrow strip of wildflower grassland between the towpath and marginal vegetation, the following text on page 25 is relevant:

'Parks'

'As with road verges, there may be parts of Reading's parkland and urban greenspaces that can be managed as less frequently cut grass. The Council is in the process of identifying suitable areas for a trial in 2021 with the aim of extending this to other areas.'

3 Assessment

The Council's Case

- 3.1 As outlined in RfR3, the Council is concerned about the impact of the height, massing and proximity of the proposed buildings fronting the Thames and the resultant impact on:
- a. marginal habitats of the River Thames
 - b. the sustainable long-term relationship between the riverside buildings and the required large canopy trees.

Marginal habitats of the River Thames

- 3.2 The Council considers that the proposed development conflicts with Policy EN11 in particular, and also EN12, EN13, EN14, CC7, CR2, CR3, CR4 and CR11 of the Reading Borough Local Plan (2019), paragraph 175 of the National Planning Policy Framework (2019) and objectives of the adopted Reading Borough Council Tree Strategy (2021) and Reading Biodiversity Action Plan (2021). The Council has identified the following key areas in which it considers the proposed development conflicts with policy:
- Harm to the River Thames (Policies EN11 and EN 12) and
 - Application of mitigation hierarchy (NPPF Para 175).

Harm to the River Thames

- 3.3 The Council states in the Committee report paragraph 6.51 *'That the proposals will result in harm to the River Thames has been conceded by the applicant hence the proposed mitigation. As the River Thames is a significant ecological asset - i.e. a "priority habitat" or Habitat of Principal Importance for the Conservation of Biodiversity in England...'*

Application of mitigation hierarchy

- 3.4 The Council states in the Committee report paragraph 6.52 that *'Given the earlier concerns caused by the height and massing of the proposed development on the character of the Thames as a recreational facility and significant visual asset to the town, which could be addressed by relocation and reduction of Blocks d and E officers consider it reasonable to conclude that the harm to wildlife should also be*

avoided in this way. The proposals therefore do not comply with the mitigation hierarchy and are in conflict with policies EN11, EN12 and should be refused planning permission for this reason.'

Engagement with the Environment Agency

3.5 The Environment Agency as a statutory consultee has provided several responses to the application during the course of the applications determination period .

3.6 Following the receipt of information from the appellant, the EA proposed two options to overcome their objection in their letter of 16th October 2020 to the Council (see Appendix F). The EA set out these options as follows:

'Option 1 would be to reduce the height of the buildings and/or set them back further from the river. This has been raised previously. The usual rule of thumb would be to have the building set back from the bank top the same distance as the height of the building to prevent shading of the river and river bank. While this is the best option for preserving the footbridge mitigation planting and riverbed habitat, we do realise this may not be the preferred option.

Option 2 would be to see additional marginal planting installed as a combination of mitigation and ecological enhancement in recognition of the impact of shading. We would also like to see shade tolerant plants added to the footbridge planting area to allow for succession to a shadier environment.

There are a number of locations that could be explored for this additional marginal planting on either side of the river. Ideally, upstream between the footbridge and Caversham bridge. We believe that much of this land is under the ownership/control of Reading Borough Council and so any discussions regarding this should include the relevant Reading BC representative.'

3.7 The Council considers that the EA's option 1 (reduce the size of the buildings) should be followed and that currently the appellant has not fully assessed the hierarchy of mitigation. The Council has also considered option 2 proposed by the EA in the appellants submission.

3.8 The Council states in the Committee report paragraph 4.20.15 that *'No further information has been provided about the type of marginal planting, how it will be installed, who will be responsible for its management etc.'*

3.9 Regarding where the new marginal planting could be placed, the Council has considered a number of options shown in River Thames Mark Up (448.300.LAND.003) showing RBC and EA owned river edge areas (see Appendix G) which accompanied a letter from Berkeley Homes to Mr J Markwell dated 12th November 2020 (document reference 10.222). In the Committee report paragraph

4.21.5, the Council states that *'Officers do not see much scope for enhancement at almost all of the red-lined locations.'* In relation to locations where the Council consider new marginal planting could be placed, the Council states *'While there is scope for some additional planting along both the south bank of Christchurch Meadows and the north bank of King's Meadow, Officers are reluctant to plant up large sections of the bank to further close out views'. In the Committee report paragraph 6.49, the Council states: '...it is not clear if the alternative location between Christchurch Bridge and Caversham Bridge is viable for the new marginal beds and whether other river users (boat owners and kayakers) might have objections'.*

Large canopy trees

- 3.10 In the third reason for refusal, concerns are expressed regarding the height and proximity of the buildings to the river not allowing sufficient space for a successful long-term relationship with large canopy trees within the riverside buffer which are considered contrary to EN13, EN14 and objectives of the adopted Tree Strategy. The Council considers that current proposals do not allow a long term sustainable relationship between the riverside buildings and large canopy trees. This issue is dealt with in *55 Vastern Road, Reading, Arboricultural File Note – Riverside Tree Selection Suitability (May 2021)* prepared by Greengage.

The Appellant's Case in relation to impact on the Thames

Application of mitigation hierarchy

- 3.11 Paragraph 118 referred to in paragraph 4.2.63 of the Reading Local Plan relates to the March 2012 version of the NPPF. The November 2019 version of the NPPF supersedes this and the respective paragraph has been reworded in paragraph 175 of the November 2019 version below:

'175. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

- 3.12 The part which is relevant to the Council's objection and refers to the mitigation hierarchy is 175 a).

- 3.13 The mitigation hierarchy is also set out in Policy EN12. The end of Policy EN12 states:

'In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is "no net loss" of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.'

Policy EN12 clearly makes provision for off-site compensation where appropriate to ensure that there is 'no net loss' of biodiversity as part of the development.

3.14 Paragraph 4.2.63 of the Reading Local Plan in support of Policy EN12 states

'...A mitigation hierarchy approach, as set out in paragraph 118 of the NPPF, will be used to consider the loss of on-site biodiversity. In exceptional circumstances where the benefits of development outweigh the loss, and where the mitigation hierarchy has been followed, off-site compensation may be acceptable. There are established metrics for considering off-site mitigation at a national level, including those described in DEFRA's biodiversity offsetting guidance, and more specific local metrics may be produced during the plan period.'

Paragraph 4.2.63 of the Reading Local Plan states off-site compensation may be acceptable where the benefits of the development outweigh the loss and where the mitigation hierarchy has been followed.

3.15 Paragraph 175 of the NPPF and policy EN12 clearly make provision for off-site compensation.

3.16 There is a question as to the degree of the impact to the existing 30m length of planted coir rolls and this is discussed further in 3.30 and 3.31 below. Having regard to the limited value of the affected area, the lack of clear evidence that there will be any significant impact, and the fact that off-site compensation is possible, the council have failed to justify their unwillingness to apply the mitigation hierarchy.

3.17 Any impact to the 30m length of planted coir rolls can be easily and adequately compensated for by installing new coir rolls on other banks of the Thames. This is appropriate for habitat of small size, low species diversity and which is replaceable.

3.18 Creating new marginal habitats will also help to deliver Reading Borough Council's aspirations as set out in the Reading BAP.

3.19 It is clear from the above that policy EN12 and para 175 of the NPPF make provision for off-site compensation where appropriate. In this case, any impact (such as it is which I will discuss below) cannot be avoided or mitigated without lowering the height of the buildings and/or setting them further back from the river. We obviously cannot provide compensation on-site because there is no riverbank (where marginal vegetation can be established) on-site. Having established that any impact cannot be avoided, mitigated or compensated for on-site, the mitigation hierarchy provides for off-site compensation to ensure that there is "no net loss" of biodiversity.

3.20 Whether a requirement to lower the height of the buildings or set them back further is justified or feasible is a matter for other evidence, having regard to design considerations and the effect of such changes to the scheme on housing provision. The evidence submitted by Berkeley Homes establishes that any impacts cannot be

avoided by way of either lowering the height of the buildings and/or setting them further back from the river. Notwithstanding this, in accordance with the mitigation hierarchy, any impact can be compensated for off-site which is an acceptable approach advocated by the Environment Agency and included as a preferred option (Option 2) within their formal response of 16th October 2020. Given the limited value of the habitats affected, the lack of clear evidence that any significant impacts will occur and the fact that off-site compensation is possible, I would question whether the Council is justified in requiring the development to be set back and reduced in height, and resisting the application of the mitigation hierarchy as advocated in their own Policy and at Paragraph 175 of the NPPF.

Effects of proposals on the marginal habitats

- 3.21 Christchurch Bridge was constructed in 2015 and as part of the enhancement measures for the bridge, additional marginal vegetation was installed. These habitats include marginal vegetation in the form of planted coir rolls¹ attached to the sheet piling and a narrow strip of wildflower grassland, which was sown between the towpath and the top of the sheet piling.
- 3.22 Christchurch Bridge has two ramps leading up from the towpath on the southern bank. Appendix A provides a plan showing the location of the existing planted coir rolls with photographs.
- 3.23 The proposed buildings and the new link to the Christchurch Bridge will decrease the number of direct sunlight hours to the length of 30m of planted coir roll located between the ramps (Appendix A, area 1, photographs 1 and 2). This is demonstrated by the two most recent studies on existing and proposed sunlight and overshadowing:
- Daylight and Sunlight additional review response (Transient Overshadowing ref: 3591_R06_TS01), eb7, 10 July 2020 (document reference 6.64) provides a series of images showing the shadows on the Thames between March and September between 07:00 and 17:00 hours for existing and proposed scenarios.
 - Updated Sunlight Assessments (Ref: 3591_R06_SA01), eb7, 31 August 2020 provides a series of images showing the number of sunlight hours for different parts of the river

¹ Marginal vegetation is herbaceous (non-woody) vegetation located at or just below water level on the margins of watercourses. Pre-planted coir rolls are a method of establishing marginal vegetation on hard-edged riverbanks such as those adjacent to the site. The rolls are 0.2 or 0.3m wide and typically planted with 5 to 7 native wetland plant species.

between March and September for existing and proposed scenarios. This was provided to the EA with an email from Berkeley Homes on 3rd September 2020 (both email and the updated sunlight assessments are located in Appendix C).

- 3.24 The reduction in direct sunlight hours will be more pronounced in winter (due to longer shadows) when most plants are dormant and less pronounced in the summer growing season.
- 3.25 It is accepted that the sunlight exposure to c.30m length planted coir rolls, adjacent to the site and between the two ramps leading up to the bridge, will be reduced, perhaps resulting in a degree of reduced vigour.
- 3.26 There is also a narrow strip of grassland between the two ramps and between the top of the sheet piling and the towpath which was sown with wildflower/grass seed when the Christchurch Bridge was built. This is shown in photographs 1 and 2 in Appendix A. This will also be affected by increased shade which may reduce the growth of this vegetation.
- 3.27 The 45m of planted coir rolls located to the east of the eastern ramp (Appendix A, area 2, photographs 3 and 4) will not be affected by the proposed development. In the Updated Sunlight Assessment, the comparison between existing and proposed sunlight exposure shows that there will be no decrease in sunlight hours to the section of planted coir rolls to the east of the bridge ramps. The Daylight and Sunlight additional review response shows that shade is only cast by the buildings to this section in the evening when it is already shaded by the line of poplar trees to the east of the proposed development.
- 3.28 The significance of wildlife habitats is assessed using geographical contexts in accordance with guidelines set out in *Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)*, Chartered Institute of Ecology and Environmental Management (2018). These following contexts were used for the Ecological Assessment:
- international
 - national
 - regional
 - county
 - borough
 - neighbourhood
 - site

Significance reduces on a sliding scale from international to site.

- 3.29 The River Thames in Reading is referred to in Local Plan Policy EN12. The River Thames is an important wildlife corridor through Reading and therefore of borough significance. Although the affected marginal habitat is part of the River Thames, any impact to the short (30m) length of planted coir roll (as detailed above), which has low species diversity and is easily replaceable, is of neighbourhood significance at most. The same is true for the very small strip of sown wildflower grassland. There would be a minimal impact to the River Thames.
- 3.30 As stated in the Committee Report paragraph 6.51, there is no definition of “significant harm” in the NPPF, or NPPG. Although the buildings will increase shade to the coir rolls supporting marginal vegetation adjacent to the site, it is unlikely that the marginal vegetation will be lost although its vigour may be reduced to some degree. The degree by which the vegetation will be affected is difficult to assess and the EA has suggested post development monitoring to see if there would be a measurable reduction in vigour. In their letter of 30th September 2020 to Berkeley Homes (see Appendix D), the EA states:

‘An alternative option would be to carry out long term monitoring of the existing vegetation and, should there be a reduction in vigour, installing replacement planting at an alternative location in this river reach where it would not be subject to shading. This, however, introduces an element of uncertainty and an ongoing commitment for the developer to carry out monitoring and mitigation.’

- 3.31 It can be seen from the EA’s letter that they share my opinion that the increased overshadowing will not necessarily lead to significant harm to the marginal vegetation. However, as described below, the Appellant has proposed mitigation if any effect arises.

Effects of the proposed development on the river itself

- 3.32 In terms of the impact of shade on rivers, it is important to consider whether there could be an impact from increased shade on the river itself.
- 3.33 Rivers are naturally shaded (often heavily) by trees (as is the case east of Reading Bridge along Kings Meadow) or valley sides. Natural river corridors with a natural mix of shaded and sunny sections are of high biodiversity value. The south banks of rivers tend to be more shaded due to trees.
- 3.34 Shade reduces river temperatures and this will be increasingly important as temperatures rise due to climate change. The initiative ‘Keeping Rivers Cool’ (2016) seeks to restore riparian shade for climate change adaptation. Keeping Rivers Cool

is a partnership initiative supported by: Angling Trust, Environment Agency, Freshwater Biological Association, Forestry Commission, National Trust Natural England, The Rivers Trust, the University of Birmingham, the University of Nottingham and the Woodland Trust. The aim of the initiative is to increase shade to reduce river temperatures. The introduction to the Keeping Rivers Cool manual (see Appendix H) states:

'Historically in the UK, the land beside natural rivers and streams, and their floodplains, were more extensively wooded than they are today. Much of this tree cover has been lost. ...

Shading from riparian trees and shrubs can help reduce local stream temperatures, with summer mean and maximum water temperatures on average 2°C – 3°C lower in shaded areas than in open rivers...'

'...In the next 60 – 70 years, projected increases in water temperatures will make some rivers inhospitable for our freshwater wildlife, upsetting finely balanced ecosystems.'

- 3.35 The manual states that average air temperatures are predicted to rise by 2 to 4°C by the 2050s compared to the long-term 1961 – 90 average temperature. It is expected that river temperatures will rise by a similar amount.
- 3.36 As water temperatures increase, the amount of oxygen in the water drops and can lead to an increase in fish mortality. High river temperatures and reduced dissolved oxygen also affect the survival of other river biodiversity. Open stretches of river which lack shade, including the Thames in Reading, will heat up more as a result of climate change.
- 3.37 As for riparian trees, the shade cast by the proposed development will not be detrimental to river biodiversity. Indeed, it may be helpful in sustaining such biodiversity.

Proposals for mitigation and compensation

Marginal vegetation

- 3.38 Detailed consultation with Environment Agency planning and biodiversity specialists have taken place with a conference call, letters and emails. The Environment Agency have indicated that they are concerned about the potential impact to marginal habitat adjacent to the site because this habitat is scarce in this section of the Thames. In their letter of 16th October 2020, the Environment Agency considers that the impact of increased shade to the marginal vegetation can be compensated by their proposed Option 2, i.e. the creation of new marginal habitat ideally between Christchurch Bridge and Caversham Bridge and the inclusion of shade tolerant plants added to the footbridge planting area to allow for succession to a shadier environment.
- 3.39 DEFRA's biodiversity offsetting metric (The Biodiversity Metric 2.0 - Calculation Tool - Beta Test December 2019 Update) has been used to assess the biodiversity value of the affected 30m length of planted coir rolls. This Defra metric is still being developed and does not as yet include a category for marginal vegetation (UK Habitat Classification² f2d). The closest category in this metric is 'Wetland – Reedbeds' (UK Habitat Classification f2e) has been used. The metric assigns a value of 0.02 habitat units to 15m² area (30m length and 0.5m width) of marginal planting of 'moderate' condition. If there were a total loss of the existing 30m length of marginal vegetation, the new marginal planting required in compensation would be 20m² area (40m length and 0.5m width) of 'fairly good' condition. (The metric condition categories are: poor, fairly poor, moderate, fairly good and good). As there is a question as to whether there will be an actual impact to the existing marginal vegetation, the proposed compensation (which in the case of both Options A and B described below is 40m in length and 0.5 m wide) is considered to be more than adequate.
- 3.40 The new marginal habitat can be provided using the planted coir rolls, i.e. the same method which was used to create the marginal habitat by the Christchurch Bridge. Details of coir roll installation are provided in Appendix I.
- 3.41 In terms of the best location for the new marginal habitat (i.e. planted coir rolls), Berkeley Homes provided a number of options in the River Thames Mark Up

² UK Habitat Classification is a new habitat classification upon which DEFRA's biodiversity offsetting metric is based (see www.ukhab.org)

448.300.LAND.003 (document reference 6.93) (see Appendix G) showing RBC and EA owned river edge areas which accompanied a letter from Berkeley Homes to Mr J Markwell dated 12th November 2020.

3.42 Having considered these areas further, we believe that two locations are best suited for the location of additional coir rolls (see Appendix J). These are:

A. a stretch of the north bank of the river alongside Christchurch Meadows which we now understand is owned by Reading Borough Council

B. alongside the existing coir rolls to the east of the Christchurch Bridge to double the width of the marginal vegetation. This is also owned by Reading Borough Council

Appendix J also includes photographs of each option.

3.43 Option A is a stretch of the northern bank which being severely eroded by waterfowl as shown by the two photographs in Appendix J. Installing coir rolls here would stabilise this bank and prevent further erosion. This stretch is some 240m from the boat club and therefore would not restrict access to the river by boat owners or kayakers (as raised in the Committee Report paragraphs 4.20.15 and 6.49).

3.44 Option B would increase the width of the marginal vegetation and so double the area of the existing marginal vegetation (Area 2 as described earlier). Coir rolls are commonly used in combination to create wider widths of marginal vegetation which are more ecologically valuable and resilient. A photograph of this length is also provided in Appendix J.

3.45 The coir rolls will be installed by Salix River & Wetland Services Ltd and be pre-planted with the following species:

- *Carex acutiformis*
- *Iris pseudacorus*
- *Glyceria maxima*
- *Phalaris arundinacea*
- *Schoenoplectus lacustris*
- *Mentha aquatica*
- *Lythrum salicaria*

3.46 Photographs showing examples of the coir rolls installed along river banks shown in Appendix K. The vegetation grows at water level and the photographs show that views are not closed out. Therefore with respect to the Council's concern expressed in Committee report paragraph 4.21.5 that the new marginal planting could close out

views, views will not be closed out by this vegetation. Photographs 3 and 4 in Appendix A also demonstrate this. Committee report paragraphs 4.21.1 and 4.21.4 raise concerns about any effective narrowing of paths due to future overhang. Both options are set away from paths, option A by a grass strip and option B by the existing coir roll (see photographs in Appendix J) and therefore there will be no resultant narrowing of the paths.

- 3.47 The Environment Agency has also recommended that more shade tolerant native wetland plants should be planted in the marginal vegetation adjacent to the site. Suggested plants are listed in an email from Caroline McHardy of Berkeley Homes to Jonathan Markwell of RBC on 13th October 2020 (document reference 10.207 (see Appendix E). Other wetland species can be planted within the coir rolls to the satisfaction of the Environment Agency and Reading Borough Council and secured by condition.

Wildflower grassland

- 3.48 In relation to the short narrow length of wildflower grassland between the towpath and marginal vegetation, the Reading BAP states in the 3rd paragraph of page 25: *'As with road verges, there may be parts of Reading's parkland and urban greenspaces that can be managed as less frequently cut grass. The Council is in the process of identifying suitable areas for a trial in 2021 with the aim of extending this to other areas.'* The impact to this wildflower grassland can be compensated by creating a similar sized area of wildflower grassland within one of the areas to be identified by the Council referred to in the Reading BAP.
- 3.49 It follows from the above that off-site habitat compensation proposed by the Environment Agency (Option 2) and carried out in accordance with the proposals considered above would result in no net loss for biodiversity in the River Thames in Reading and this meets the requirements of Policy EN12 and paragraph 175 of the NPPF. This can be calculated in accordance with nationally or locally recognised guidance and metrics, as set out in 3.19 above. It can also be provided prior to development.

Landscaping between the buildings and the River Thames

- 3.50 The landscaping of the land between the buildings and the river in terms of the selection of tree, shrub, bulb and wildflower/grass mixes has also been discussed with the Environment Agency during a conference call (see Appendix B). The

Environment Agency's recommendations have been taken on board as set out in the email from Caroline McHardy to Jonathon Markwell on 13 October 2020. The proposals for the land between the buildings and the river now includes native trees, shrubs and species-rich grassland which are appropriate to the Thames corridor and will enhance the river corridor for biodiversity. The latest Planting Framework Plan 448.LA.102 F (document reference 6.126) details these changes (see Appendix L). These enhancements incorporate biodiversity improvements within the development and address paragraph 175 d). of the NPPF.

- 3.51 The relationship between the buildings and large canopy trees within the riverside buffer is addressed in *55 Vastern Road, Reading, Arboricultural File Note – Riverside Tree Selection Suitability (May 2021)* prepared by Greengage. The use of some fastigate cultivar forms removes any conflict between wide canopy tree and the riverside buildings.

4 Conclusions

- 4.1 Two concerns are set out in the third reason for refusal, namely effect on the Thames and marginal habitats, and lack of sufficient space for required large canopy trees.
- 4.2 In relation to the first, there will be no adverse impact on the river itself, the value of the affected marginal habitats is limited and off-site compensation can be provided which will ensure no net loss of biodiversity, even if (which will not necessarily be the case) there is any impact on the existing marginal planting from the overshadowing caused by the proposed development.
- 4.3 In relation to the second concern, the Arboricultural File Note – Riverside Tree Selection Suitability prepared by Greengage confirms that large canopy trees will be able to thrive on the site. In my view therefore, the appeal proposals will not have a deleterious impact on ecology and biodiversity, but, rather, they will bring benefits.

5 References

Reading Borough Council (adopted November 2019) *Reading Borough Local Plan*

Reading Borough Council (2021) *Reading Biodiversity Action Plan*.

Reading Borough Council (2021) *Tree Strategy*.

BSI *Biodiversity - Code of practice for planning and development* (BS 42020:2013).

CIEEM, CIRIA and IEMA (2016) *Biodiversity Net Gain - Good practice principles for development*.

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)*, Chartered Institute of Ecology and Environmental Management.

Environment Agency et al (2016) *Keeping Rivers Cool: A Guidance Manual – Creating riparian shade for climate change adaption*

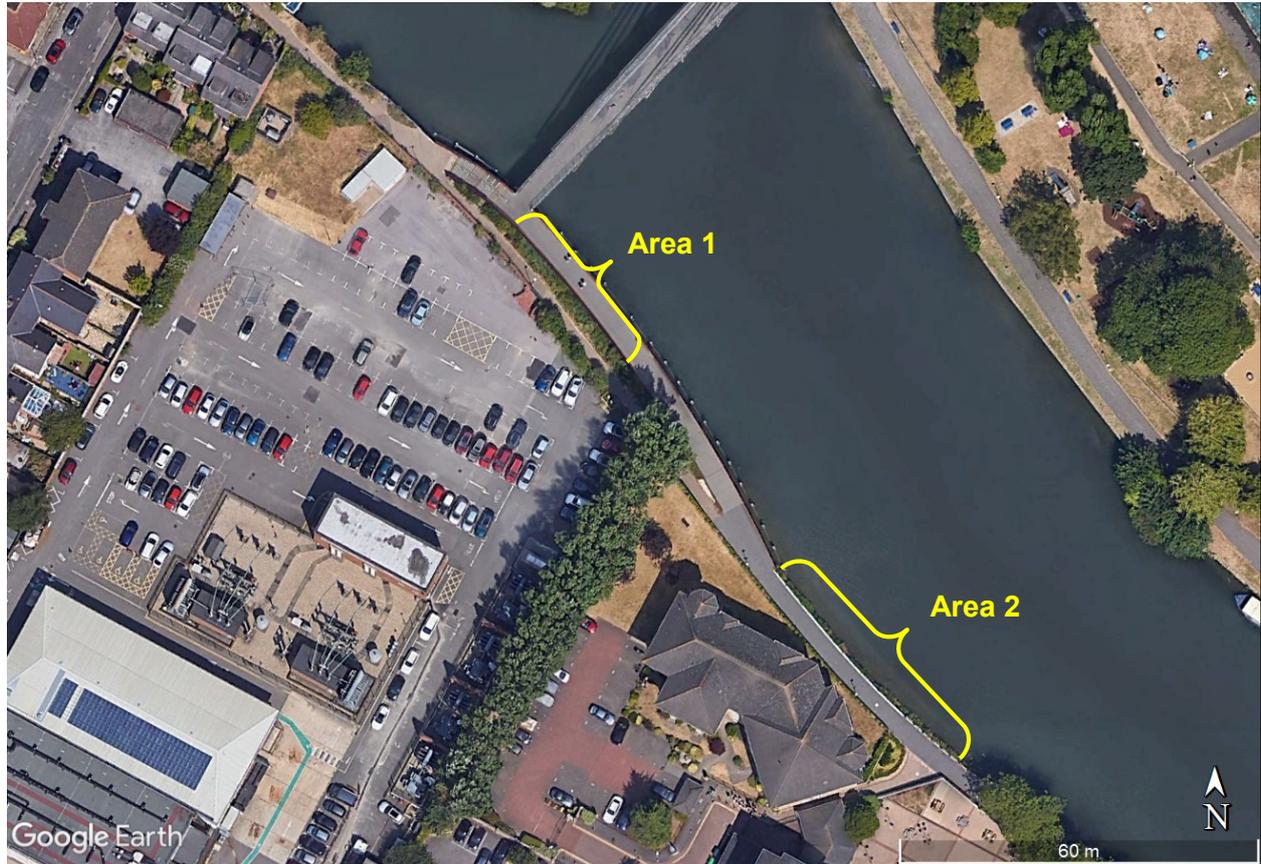
Joint Nature Conservation Committee (1990) *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*.

Ministry of Housing, Communities and Local Government (February 2019) *National Planning Policy Framework*.

Defra (2019) *The Biodiversity Metric 2.0* at <http://publications.naturalengland.org.uk/publication/5850908674228224>

UK Habitat Classification Working Group (2018). *The UK Habitat Classification* at <http://ecountability.co.uk/ukhabworkinggroup-ukhab>

Appendix A: Location planted coir rolls on south bank of the river with photographs





Photograph 1: c.30m of planted coir rolls (shown within red line). Species recorded: reed sweet-grass (LD), lesser pond sedge (LF), hemlock water dropwort (F), yellow flag iris (R), purple loosestrife (R). This also shows a very narrow strip of grassland sown with wildflower/grass seed between the coir rolls and towpath.



Photograph 2: The planted coir rolls (shown within red line) from the towpath. This also shows a very narrow strip of grassland sown with wildflower/grass seed between the coir rolls and towpath.



Photograph 3: c.45m of 0.5m wide planted coir rolls east of the eastern bridge ramp. Species recorded: reed sweet-grass (A), greater pond sedge (LF), hemlock water dropwort (F), yellow flag iris (F), purple loosestrife (O). Orange balsam (R) naturalised – invasive non-native.



Photograph 4: View of marginal planting east of the eastern bridge ramp from footpath.

Appendix B: Minutes of meeting with EA on 11th June 2020Cost recovery meeting 11 June 2020 Vastern Rd site ENVPAC/1/THM/00406.

Version	Date viewed	Company	Person agreeing to the meeting notes and actions.
1	15/06/2020	Environment Agency	Kirsty Macpherson (author)
1	16/6/2020	Environment Agency	Lesley Sproat
1	19/06/2020	Berkeley Homes	Dave Taylor
1	19/06/2020	Berkeley Homes	Tom Nicolas
1	19/06/2020	Berkeley Homes	Joe Harding
1	19/06/2020	Eb7	John Barnes
1	19/06/2020	EcoConsult	Iain Corbyn

Attendees:

Kirsty Macpherson, Planning Specialist (chair) - Environment Agency
 Lesley Sproat, Biodiversity Specialist - Environment Agency
 Joseph Harding, Land Manager - Berkeley group
 David Taylor, Design Director - Berkeley group
 Iain Corbyn, Ecologist - Eco-consult
 John Barnes, Daylight and shading consultant - eb7
 Thomas Nicolas, Landscape - Berkeley group

Agenda Items:

1. Possible shading of the river and riparian vegetation
2. Landscape species and biodiversity net gain

Notes:

1. Shading of the river and riparian vegetation

Lesley highlighted that the building was much taller than the surrounding buildings so it was hard to determine what the shading impacts to the river and riparian vegetation might be. Additionally, the Daylight/Sunlight analysis submitted with the application had been focussed on the neighbouring properties rather than the river.

Lesley and Kirsty pointed out that the building design and location may not be in keeping with the Local Plan. The location of taller buildings should be located near the station with lower buildings near the edge of the zone, i.e. lower towards the river. This would be more in keeping with the current buildings along the river of 3-4 storeys.

Lesley outlined the issue with shading the vegetation along the river margin adjacent to the site and extending downstream. This vegetation had been provided as part of a previous planning/Land Drainage Consent condition associated with the construction of Christchurch Bridge. The proposed development must therefore not impact on that vegetation either physically or through shading.

Additionally, the shallow areas which occur along the river edge adjacent to the proposed development site are important for fish fry, providing feeding areas and a refuge from predators. As importantly for them, these areas tend to be warmer due to the sun shining on them. This habitat could be affected by additional shading produced by the proposed development.

In order for the Environment Agency to make an informed decision about the additional building shading on the river and riparian vegetation, further evidence needs to be provided.

Action: John (eb7) to provide daylight hours modelling for the river during the vegetation growing period (March-October). Also the modelling should cover the part of the year where the shallow habitats are of greatest value to fish fry. The modelling will provide a comparison between the current situation and the situation once the building is built.

The Environment Agency will review this information once available.

2. Landscape species and biodiversity net gain

Lesley questioned why, on the planting plan, amenity grass was proposed at lower levels than the water tolerant species. She also questioned the need for water tolerant species.

Discussion between Lesley and Thomas resolved that as the level for planting was above the level of regular flooding there was no need for wet tolerant plant species. A mix of locally native general species of UK genetic provenance would be preferable. This would also give a wider range of plants to choose from.

Lesley suggested that a bigger effort towards biodiversity net gain was required and that the vegetation and green areas in the buffer zone along the river should be in keeping with waterway habitats. She requested that the amenity grass be replaced with a wild flower meadow mix and suggested that there could be a narrow strip (up to 1m wide) mown adjacent to the towpath to prevent the vegetation hanging over the path if considered necessary. Locally native shrub and tree species of UK genetic provenance should be used. Lesley mentioned that the use of *Alnus glutinosa* (alder) may be an issue due to its susceptibility to *Phytophthora* and the risk of introducing diseased trees to the area. Biodiversity of insect and animals species will be encouraged by vegetation that produces flowers, fruit and habitat.

Action: Thomas (Berkeley group) will provide an updated landscape plan and a native species list for review.

The Environment Agency will review this information once available.

Appendix C: Email from Berkeley Homes to EA on 3rd September 2020 with Updated Sunlight Assessment, eb7, 31st August 2020

From: Joseph Harding <Joseph.Harding@berkeleygroup.co.uk>
Sent: 03 September 2020 16:00
To: Macpherson, Kirsty (Kirsty.Macpherson@environment-agency.gov.uk); Sproat, Lesley
Cc: David Taylor (Oxford); Sophie Haslum; Thomas Nicolas; John Barnes (eb7); Iain Corbyn
Subject: RE: Vastern Rd advice ENVPAC1THM00406
Attachments: 3591_R06_TS01_200707_sm-mar-Sept.pdf; Bridge ramp and ballustrade.jpg; Bridge Stair and ballustrade.jpg; 3591_R06_SA01_200831_sm.pdf

Dear Kirsty and Lesley,

Thank you for your further response received on the 6th August in relation to our scheme at Vastern Road. We have now had the opportunity to prepare the additional information you requested which is summarised below:

Sunlight and Shadowing Assessment

- We have attached an updated sunlight assessment together with the transient shadow paths from March-September. These should have been presented in our original response but were omitted in error. I hope these are helpful in understanding the existing and proposed shadowing paths during the growing season and remove your concern on this aspect.
- With regards to image 14 on our previous proposals the images were ever so slightly out of sync on the shadow paths. This has now been corrected.
- In terms of the range of hours, 6+ hours means up to the total amount of hours in a day. For the assessment, 6 hours showed the best graphic in terms of changes to the amount of sunlight on the River Thames.
- In addition, we have attached a couple of images of the bridge showing the structure of the steps and ramp with the balustrade that are creating overshadowing in the existing scenario. Please note that these photos were taken during the day in August so the shadows cast at this time of year are short (as confirmed in our analysis). This area has now been accurately simulated using a computer model used by the bridge designers in the planning application so we are confident in the test environment. Please note that the bridge ramp and stairs are greyed in the images so that you can see the shadow underneath them.

Landscape and Planting Proposals

- Bulb Planting; In addition to your comments relating to bulb planting, we can confirm that only native species of UK genetic provenance will be included. We note your comments in relation to summer snowflake and this will not be included in the planting.
- Shrub Mix; The native shrub mixes will be managed in the long term by our residents management company to a height of 2-3m and designed in our accompanying landscape management plan. This careful management will ensure they are sizable enough to provide ecological benefit, but will not cause complications with the outlook from the proposed development. As you have requested, we have omitted all non-native species and do not use cultivars or varieties.
- Tree species; We note your comments regarding the inclusion of Beech and have removed these and will replace with English Oak for the ecological corridor between the buildings and the river.
- Grassland seed mix; We are pleased that our proposed grassland mixes are agreed and we can include 'or similar as approved'. We also have reviewed the planting in further detail and feel that there is the potential to enhance the planting and ecological value between the proposed development and the River Thames but would welcome your view once you have reviewed the attached information and perhaps we could have the opportunity to discuss this with a call in further detail?

I hope that the attachments assist but can I suggest that we schedule in another call next week to discuss the information once you have reviewed? In addition, we think that a site visit may be useful as well; is this an option for yourself and Lesley if we arrange?

I look forward to hearing from you at your earliest convenience.

Kind regards
Joe

Joe Harding MRICS
Land Manager

Berkeley



Berkeley Homes (Oxford & Chiltern) Limited
Berkeley House, Farnham Lane, Farnham Royal, SL2 3RQ
Telephone| 01753 784400 | Direct Dial 01753 784502 | Mobile 07342 082549
Email: joseph.harding@berkeleygroup.co.uk | www.berkeleyhomes.co.uk

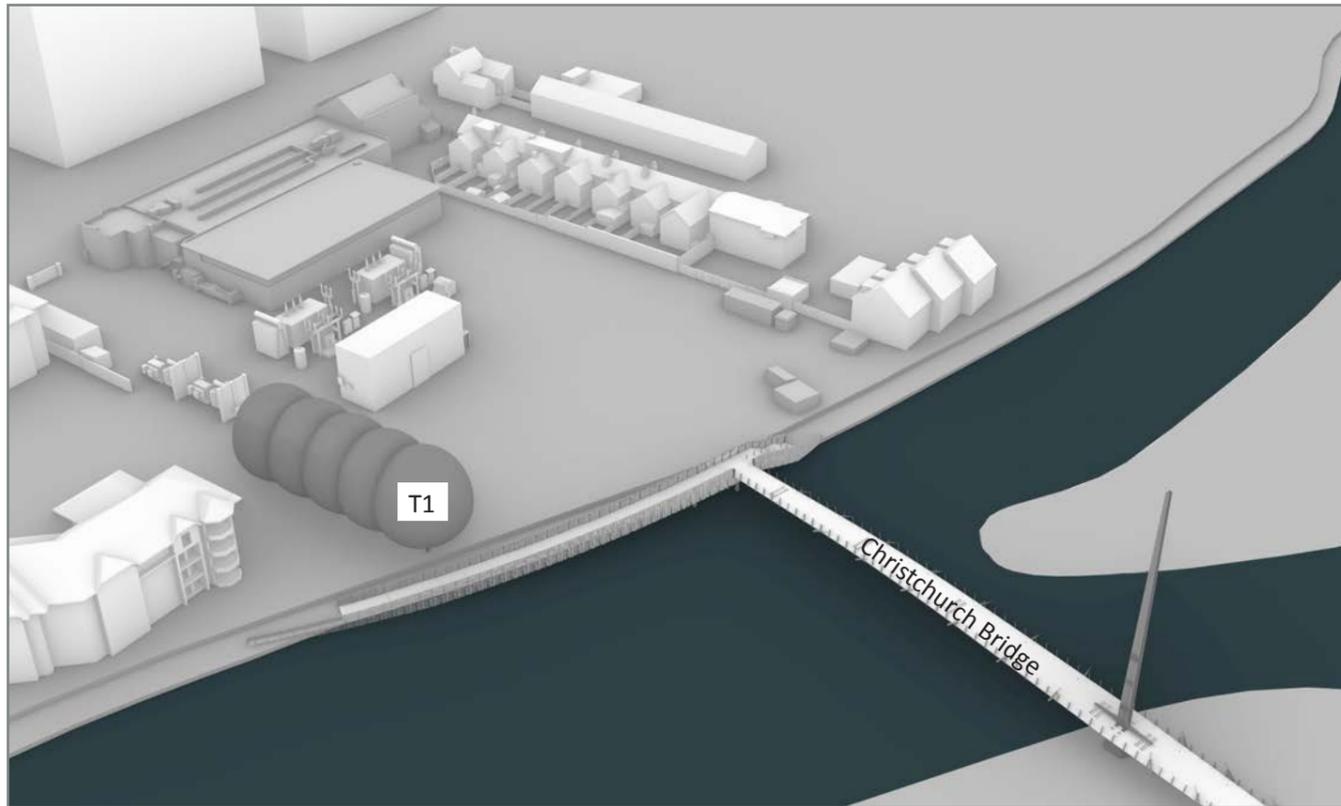


Fig. 1: Existing - Bird's Eye View



Fig. 3: Proposed - Bird's Eye View

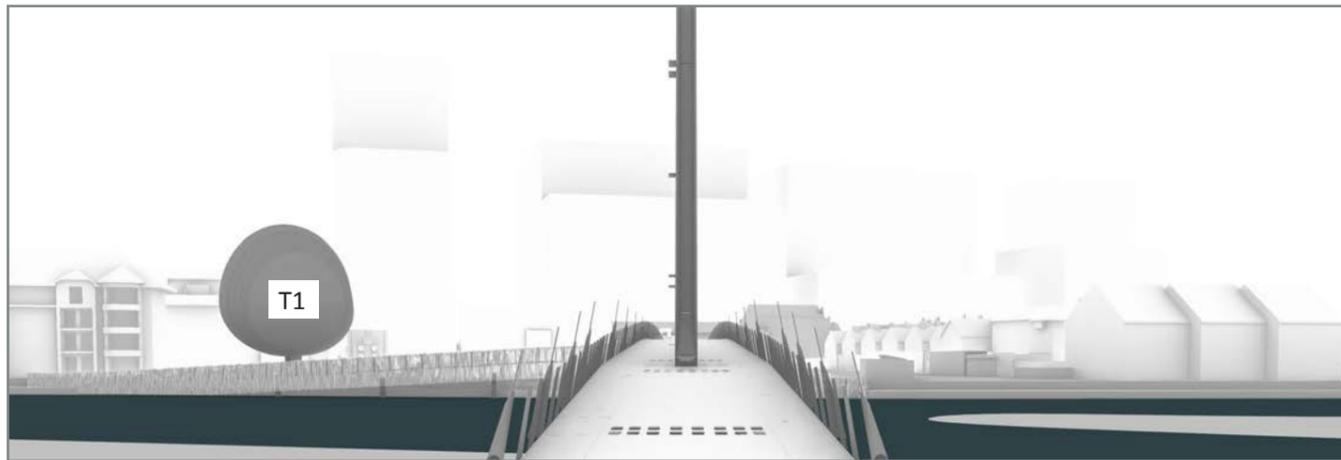


Fig. 2: Existing - View from Bridge

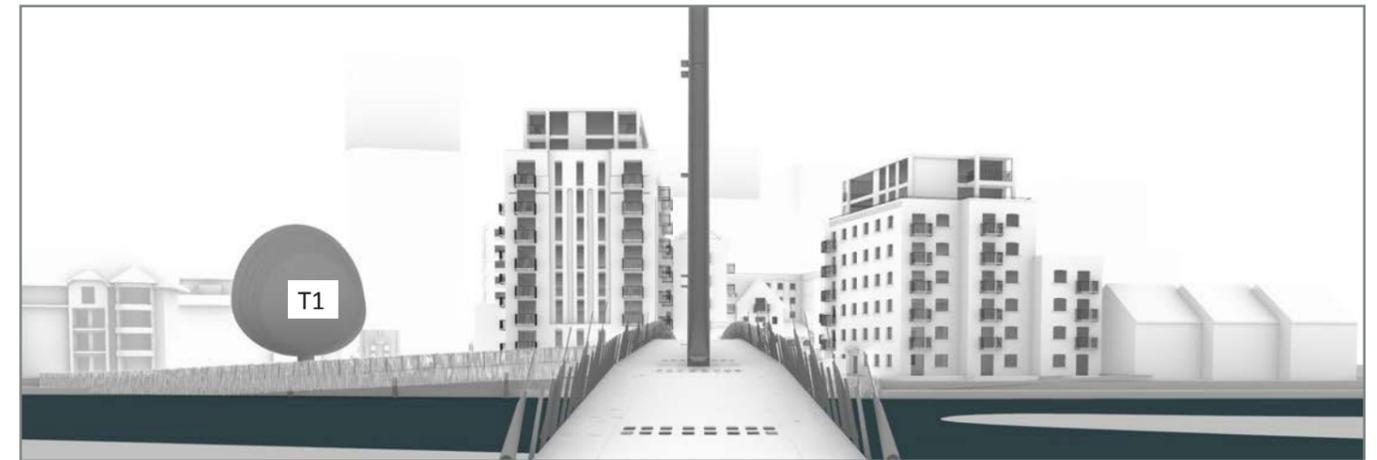


Fig. 4: Proposed - View from Bridge

Tree Code	Species		Foliage type	Height (m)	Spread (m)				Transparency	
	Common name	Scientific Notation			N	E	S	W	Full leaf	Bare branch
T1	Unknown	Unknown	D	17	7	7	7	7	20*	55*

Tree transparencies taken from BR209 Table H1 where available
 *Assumed

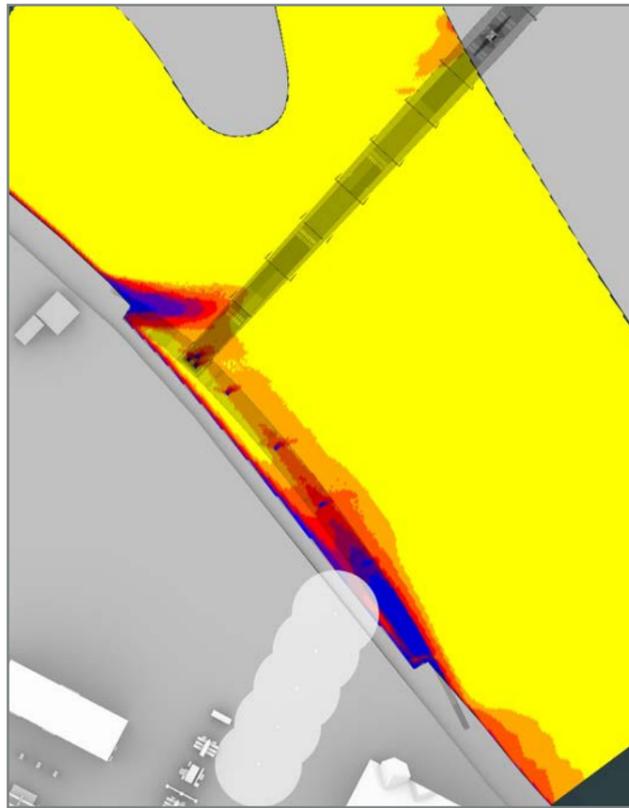


Fig. 5: 21st March

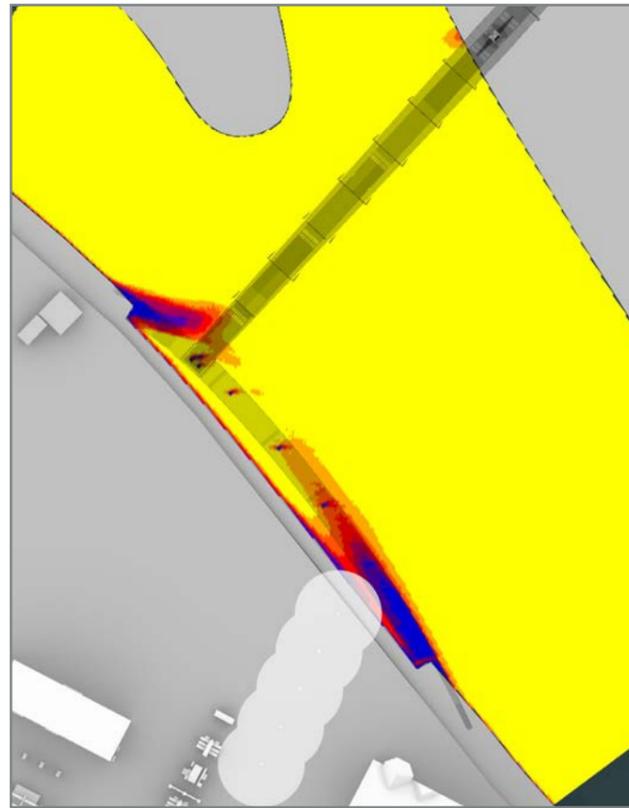


Fig. 6: 21st April

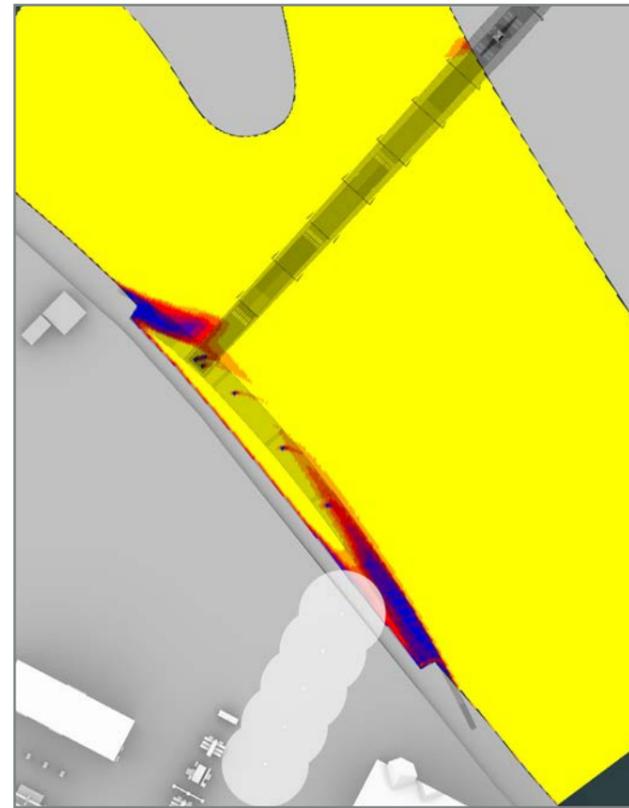


Fig. 7: 21st May

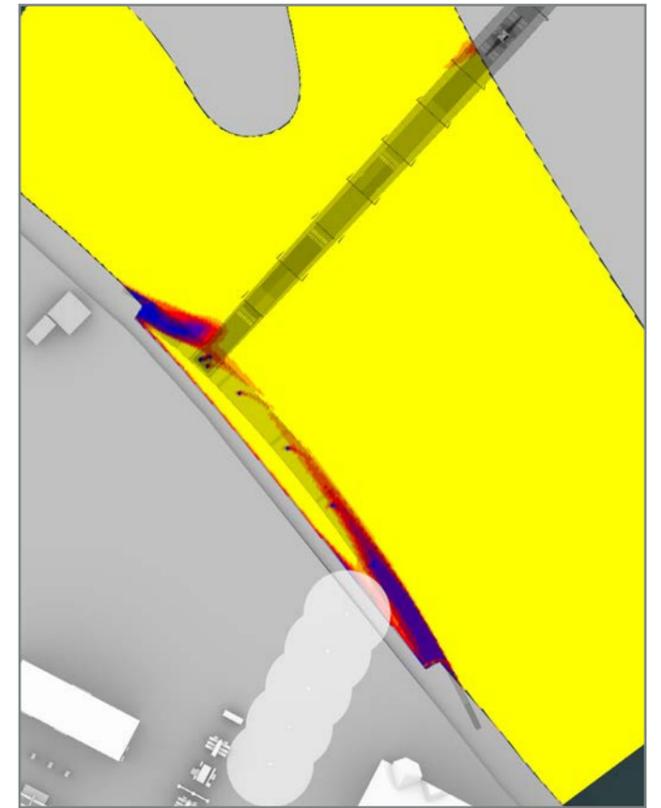


Fig. 8: 21st June

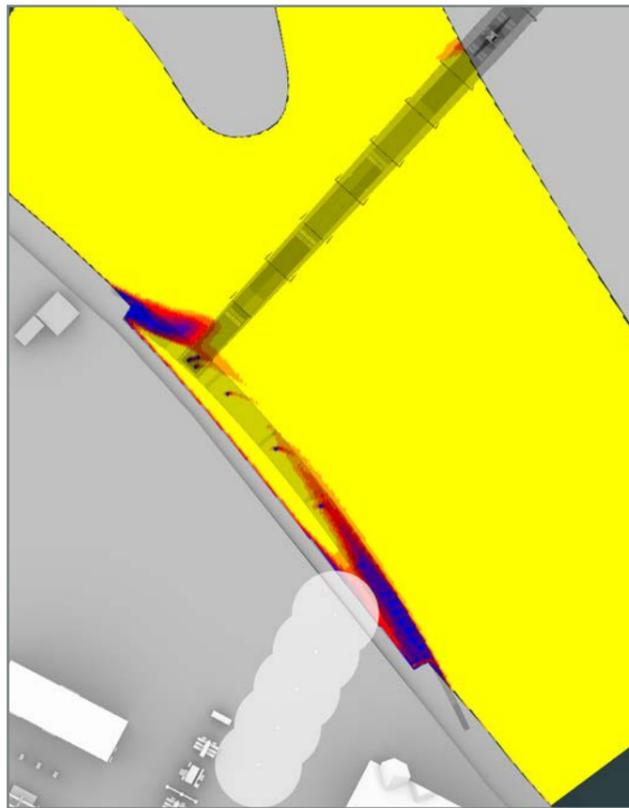


Fig. 9: 21st July

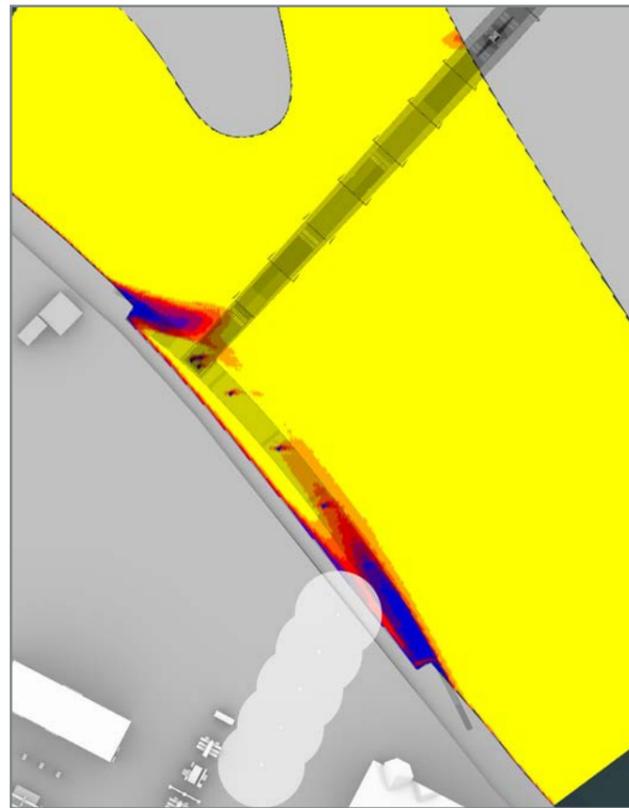


Fig. 10: 21st August

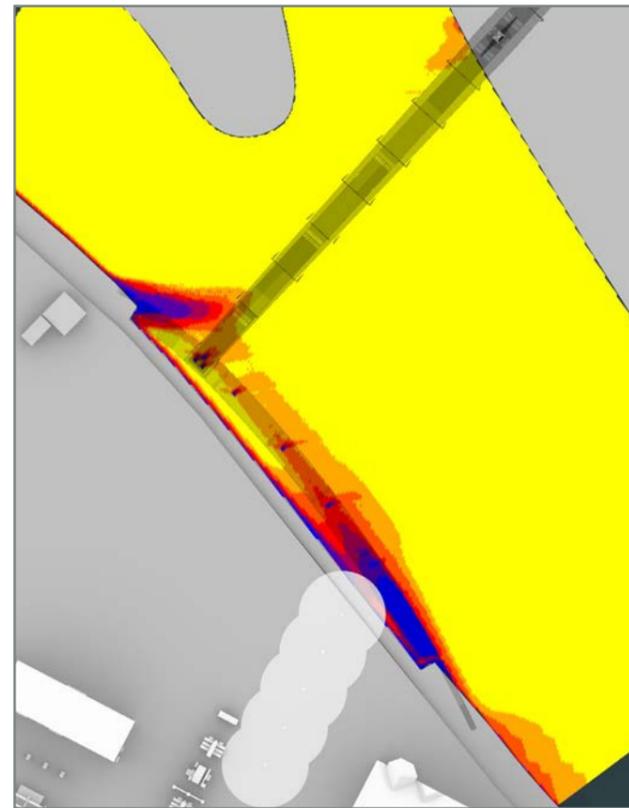
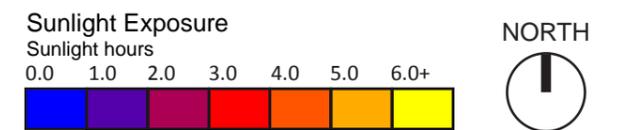


Fig. 11: 21st September



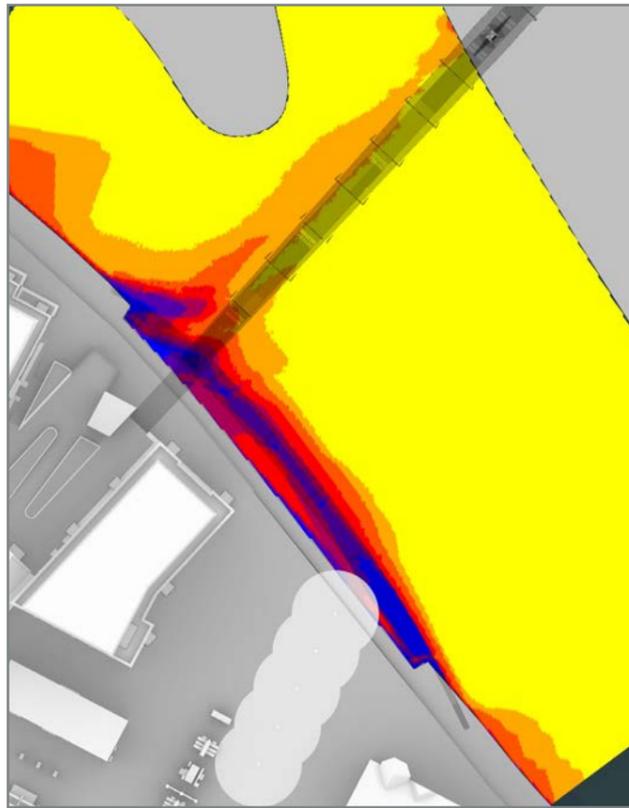


Fig. 12: 21st March

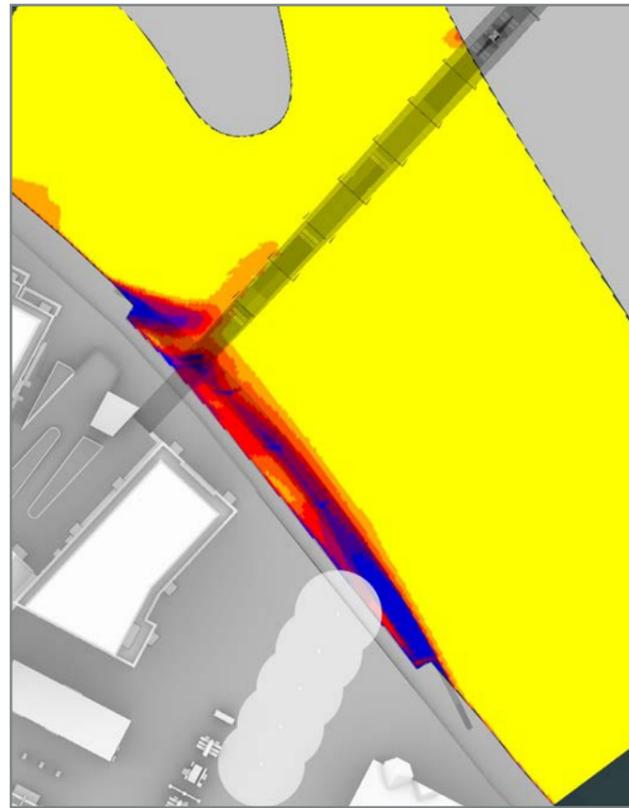


Fig. 14: 21st April

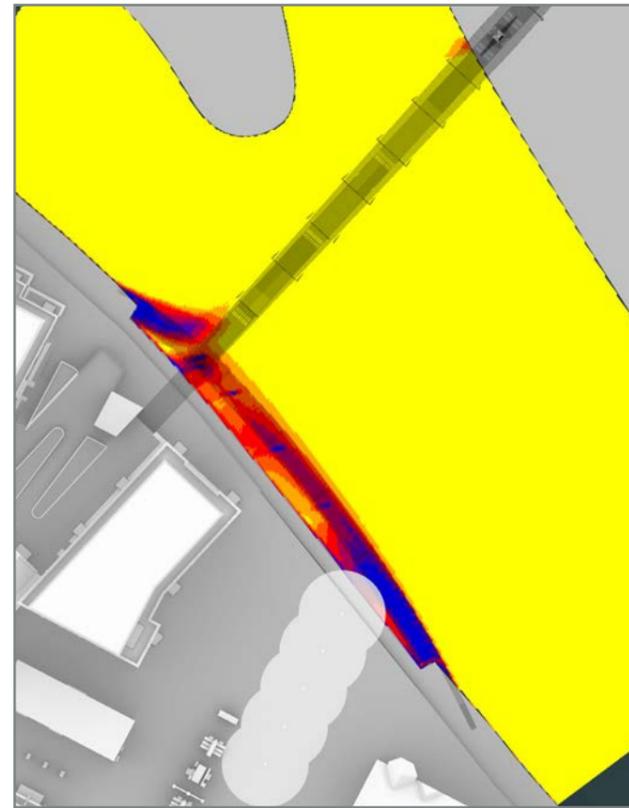


Fig. 16: 21st May

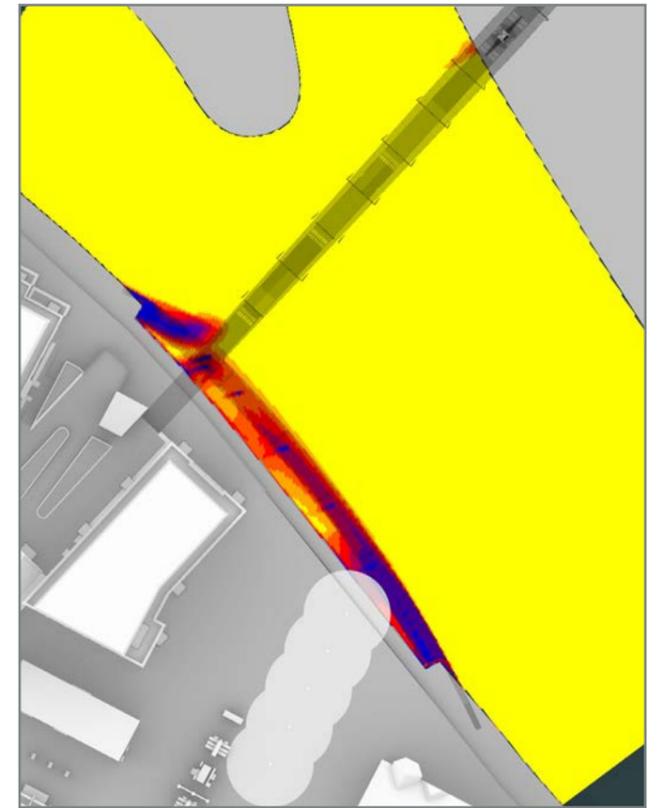


Fig. 18: 21st June

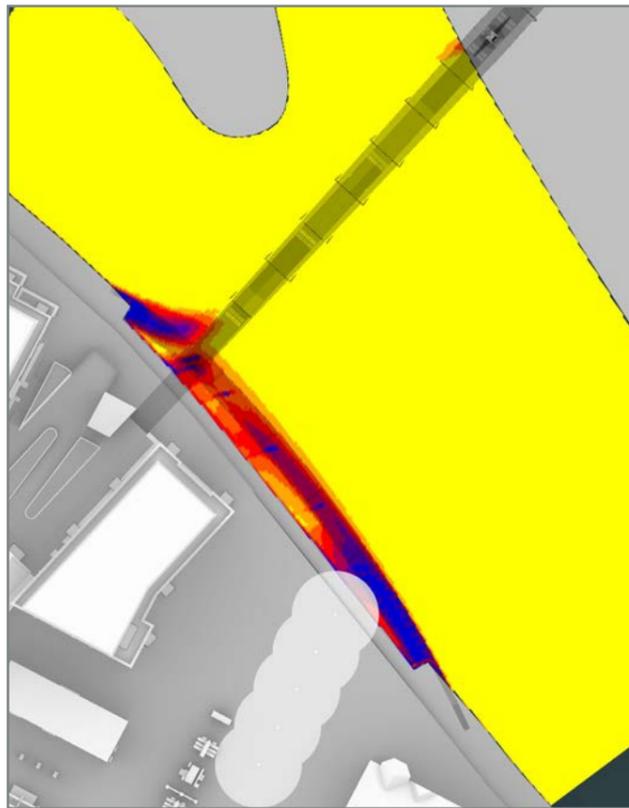


Fig. 13: 21st July

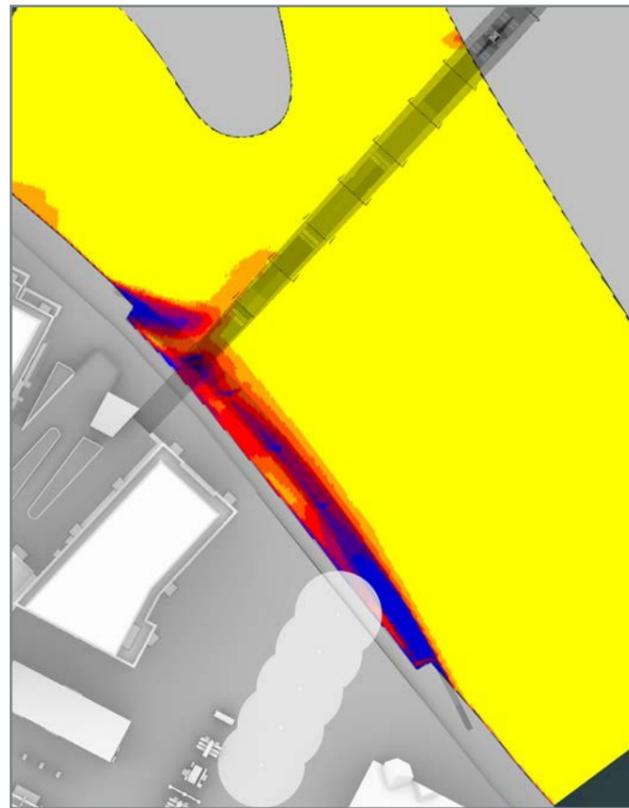


Fig. 15: 21st August

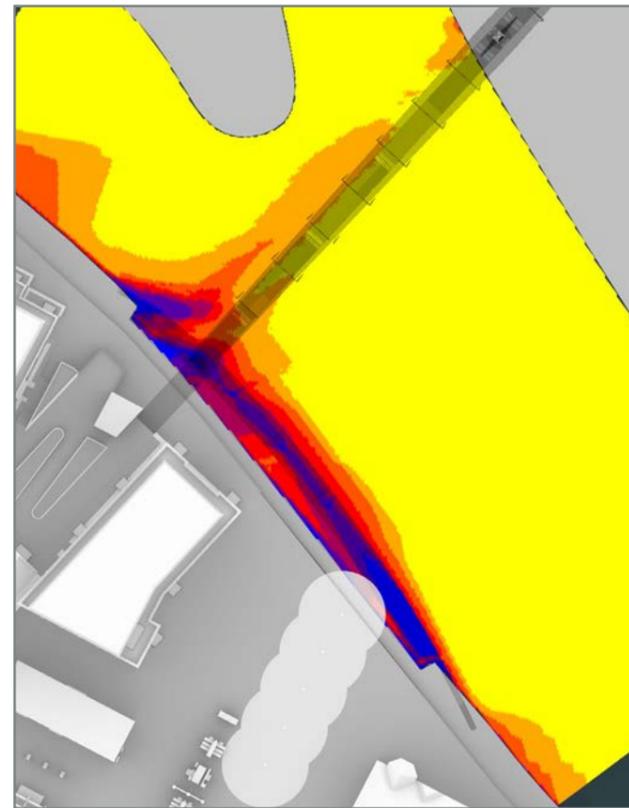
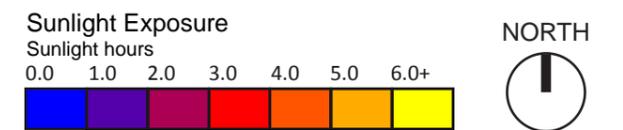


Fig. 17: 21st September



Appendix D: Letter from the Environment Agency to Berkeley Homes on 30th September 2020

creating a better place



Mr. Dave Taylor
Berkeley Homes LTD
Farnham House Farnham Lane
Farnham Royal
SLOUGH
SL2 3RQ

Our ref: WA/2020/127978/02-L01
Agreement No. ENVPAC/1/THM/00406
Your ref: 200188
Date: 30 September 2020

Dear Mr. Taylor

Advice on biodiversity objection to: Demolition of existing structures and erection of a series of buildings ranging in height from 1 to 11 storeys, including residential dwellings (C3 use class) and retail floorspace (A3 use class), together with a new north-south pedestrian link, connecting Christchurch bridge to Vastern Road

55 Vastern Road Reading RG1 8BU

Thank you for accepting our offer to provide detailed planning advice. The advice detailed below is intended to inform your development proposal. It is not our statutory response to a planning application consultation.

We have reviewed the following documents:

- Email from Joseph Harding (Berkeley Group) dated 03 September 2020 and the documents attached relating to the sunlight assessment.

We are providing this advice under Agreement No. ENVPAC/1/THM/00406. Please note we have taken 13.5 hours in total to review and provide our advice on your development and you will be invoiced accordingly.

Please note that we are only providing you with our advice on the matters as outlined in our amended offer as requested.

Summary

In summary, we would be unable to remove our objection to this application, as it stands, due to the impact of shading on the footbridge mitigation planting and the riverbed habitat. A mitigation strategy is required to address these impacts.

Cont/d..

Environment Agency Advice

Sunlight and shadowing assessment

Having reviewed the additional information supplied relating to the transient shadow paths from March-September, the issue of shading of the river and the marginal planting along the river bank adjacent to the development has been clarified.

Comparing the shading between the existing situation and the proposed development it would appear that there would be a significant reduction in sunlight reaching this area, from our interpretation. With no development, it would appear that this area receives 6 to 7 hours of sunlight per day, but with the proposed development, this would be reduced to between 2 and 3 hours, which is likely to reduce the vigour of this planting and may result in the loss of some species.

As discussed at our initial meeting, this planting was agreed and installed as mitigation for the footbridge construction and is included in the drawings listed under Condition 2 of the planning permission for application number 131234. Conditions/requirements of one planning permission cannot be eroded by another application.

At this time, we would be unable to remove our objection with regard to the shading impact of the proposed development. It would not be acceptable for it to go ahead in its present form without mitigation, particularly due to the fact that there is very little marginal habitat through this section of the Thames.

One way of preventing this would be to reduce the height of the buildings and/or set them back further from the river. This has been raised previously. The usual rule of thumb would be to have the building set back from the bank top the same distance as the height of the building to prevent shading of the river and river bank. While this is the best option for preserving the footbridge mitigation planting and riverbed habitat, we do realise this may not be the preferred option. You should consult the LPA on this matter as it is their mitigation planting area, a condition discharged under their planning obligations, and they may have biodiversity net gain goals that this planting area may contribute to.

An alternative option would be to carry out long term monitoring of the existing vegetation and, should there be a reduction in vigour, installing replacement planting at an alternative location in this river reach where it would not be subject to shading. This, however, introduces an element of uncertainty and an ongoing commitment for the developer to carry out monitoring and mitigation.

Our preference, therefore, would be to see additional marginal planting installed as a combination of mitigation and ecological enhancement in recognition of the impact of shading. We would also like to see shade tolerant plants added to the footbridge compensation planting area to allow for succession to a shadier environment.

There are a number of locations that could be explored for this additional marginal planting on either side of the river. Ideally, upstream between the footbridge and Caversham bridge. We believe that much of this land is under the ownership/control of Reading Borough Council and so any discussions regarding this should include the relevant Reading BC representative. A site visit may be appropriate to identify the areas that would be most suitable.

Cont/d..

2

Landscape and Planting Proposals

We note the amendments and clarifications relating to the landscape and planting proposals. We note too, that you wish to discuss further the potential to enhance the planting and ecological value between the proposed development and the River Thames. We would welcome the opportunity to include this discussion in the conversation with Reading BC as to the possible location of the additional mitigation planting.

Next Steps

Please provide a mitigation strategy for the impacts to the marginal planting and riverbed habitat. We recommend that a meeting is organised to discuss the options with Reading BC. Their preference may be to reduce the building height or set it back from the river.

Final comments

Once again, thank you for contacting us with your enquiry. Our comments are based on our available records and the information as submitted to us.

I hope the above advice is helpful. If there is any further work you anticipate needing our detailed advice on in relation to this project, please let me know so it can be incorporated into this charging agreement.

Disclaimer

Please note that the views expressed in this report by the Environment Agency, is a response to a pre-application enquiry only and **does not represent our final view in relation to any future statutory consultations made in relation to this site.** We reserve the right to change our position in relation to any such application.

We have only provided advice in relation to the environmental constraints as outlined in our offer as requested. However, we will comment on all environmental constraints within our remit in our statutory response.

You should seek your own expert advice in relation to technical matters relevant to any conditions before submission.

Please quote our reference number in any future correspondence. If you have any queries please feel free to contact me.

Yours sincerely

Kirsty Macpherson
Planning Specialist

Direct dial 02030256243

Email Planning_THM@environment-agency.gov.uk

Appendix E: Email from Caroline McHardy of Berkeley Homes to Jonathan Markwell of RBC on 13th October 2020 (Document reference 10.207)

From: Caroline McHardy <Caroline.McHardy@berkeleygroup.co.uk>
Sent: 13 October 2020 13:41
To: Markwell, Jonathan (Jonathan.Markwell@reading.gov.uk)
Cc: Craig Pettit
Subject: FW: 55 Vastern Rd, Reading (200188)
Attachments: Aerial Mark-Up for EA Proposals.pdf

Dear Jonathan

Further to my email below, please find attached our proposed mitigation strategy for the River Thames. Firstly, we are proposing as suggested by the Environment Agency to plant more shade tolerant plants within the footbridge compensation area. Historically this was permitted previously under the Christchurch Bridge planning application we hope to enhance this and plant more shade tolerant plants. This is to ensure that the marginal planting is able to grow within this shadier area under the bridge and mitigate any future impact brought upon by our scheme.

Having discussed this with our ecologist, please find a list of potential species below which would assist in create a more shade tolerant and diversion ecological area;

Suggested additions:

Scutellaria galericulata – common skullcap L7
Mentha aquatica – water mint L7
Myosotis scorpioides - water forget-me-not L7
Veronica anagallis-aquatica - blue water speedwell L7
Persicaria amphibia - amphibious bistort L7
Caltha palustris - marsh marigold L7
Ranunculus flammula - lesser spearwort L7
Sagittaria sagittifolia – arrowhead L7

Secondly and in relation to the EA's response (dated 30th September) we are willing to provide additional marginal planting upstream between Christchurch and Caversham Bridge which will benefit from greater sunlight being on the northern river bank. We have identified several RBC owned areas along the River Thames and believe the area by Reading Boat Club could potentially be a suitable area to install additional marginal planting. I would welcome your views on whether this area would be acceptable to for mitigation. Whilst we understand that RBC run Christchurch Meadows, a land registry search doesn't identify a freehold owner, therefore if you are able to clarify the ownership position, an area along the northern boundary within the park could be suggested instead of the area by Reading Boat Club.

Both of these areas which we are proposing mitigation in are under the ownership of Reading Borough Council and therefore along with the Environment Agency's comments, I would welcome the opportunity to discuss this with both yourself and the EA so we can agree the desired species and a mitigation strategy for how to bring this forward and overcome their objection.

Please let me know your thoughts and when you are available to discuss with Berkeley and the EA.

Kind regards

Caroline McHardy
Land and Development Director

Berkeley



Appendix F: Letter from the Environment Agency to Reading Borough Council on 16th October 2020

creating a better place



Reading Borough Council
Development Control
PO Box 17
Reading
Berkshire
RG1 7TD

Our ref: WA/2020/127747/02-L01
Your ref: 200188
Date: 16 October 2020

Dear Sir/Madam

Demolition of existing structures and erection of a series of buildings ranging in height from 1 to 11 storeys, including residential dwellings (C3 use class) and retail floorspace (A3 use class), together with a new north-south pedestrian link, connecting Christchurch bridge to Vastern road

55 Vastern Road, Reading RG1 8BU

Thank you for consulting us on the above application, on 17 March 2020, and additional information submitted July –September 2020

We have reviewed the following documents:

We have reviewed the following documents:

- Flood Risk Assessment (FRA) produced by Stantec dated January 2020
- Landscape General Arrangement Plan (Drawing number 448.LA.101 Rev E)
- Planting Framework Plan (Drawing number 448.LA.102 Rev E)
- Letter with Appendix from John Barnes (eb7 ltd) to Joe Harding (Berkeley Homes (Oxford & Chiltern) Ltd dated 14 July 2020 relating to additional sunlight/shadowing assessment work
- Phase I-II Geo-Environmental Site Assessment 55 Vastern Road Reading Berkshire RG1 8BU by Omnia dated November 2019
- The Old Power Station, Vastern Road, Reading Proposed Drainage Strategy by Stantec dated January 2020.

Additionally, we received the following document directly and have provided comments although this does not currently appear on the Reading BC planning website:

- E-mail from Joseph Harding (Berkeley Group) to Environment Agency, dated 03 September 2020 with attached documents relating to the sunlight assessment

Environment Agency position - Biodiversity

We maintain our objection as set out in our original response dated 14 April 2020 (ref. WA/2020/127747/01-L01)

Cont/d..

Reason

At this time, we would be unable to remove our objection with regard to the shading impact of the proposed development. It would not be acceptable for it to go ahead in its present form without mitigation, particularly due to the fact that there is very little marginal habitat through this section of the Thames.

Letter with Appendix from John Barnes (eb7 ltd) to Joe Harding (Berkeley Homes (Oxford & Chiltern) Ltd dated 14 July 2020

We received a copy of this letter from Joseph Harding in July 2020 and commented as follows:

"The scale indicated for the number of hours of sunlight on the river in the Appendix one graphics is too coarse to be useful. Looking back at the earlier Daylight & Sunlight Report (eb7, dated 19 December 2019) submitted with the application, this contained graphics showing transient overshadowing (Appendix 5). The use of this technique might give greater clarification of the impact of the shadowing that might result from the proposed development. We are unsure why this methodology was not used and why an hourly representation for a representative day (e.g. in April, June, August) was not included as was provided in the earlier report.

Given that shading looks to be increased it would also be useful at this stage to see a shade arc on representative days (e.g. in April, June, August). This would give an idea of the height of the shadow. Does it reach the other side? The sunlight hours and shade arc should also be done for a scenario where the building is lower in height next to the river and taller buildings set back from the river to see if that increase can be avoided."

E-mail from Joseph Harding (Berkeley Group) to Environment Agency, dated 03 September 2020 with attached documents relating to the sunlight assessment

We received additional information with regard to the sunlight and shadowing assessment our comments were as follows:

"Having reviewed the additional information supplied relating to the transient shadow paths from March-September, the issue of shading of the river and the marginal planting along the river bank adjacent to the development has been clarified.

Comparing the shading between the existing situation and the proposed development it would appear that there would be a significant reduction in sunlight reaching this area, from our interpretation. With no development, it would appear that this area receives 6 to 7 hours of sunlight per day, but with the proposed development, this would be reduced to between 2 and 3 hours, which is likely to reduce the vigour of this planting and may result in the loss of some species".

Overcoming our objection

Option 1 would be to reduce the height of the buildings and/or set them back further from the river. This has been raised previously. The usual rule of thumb would be to have the building set back from the bank top the same distance as the height of the building to prevent shading of the river and river bank. While this is the best option for preserving the footbridge mitigation planting and riverbed habitat, we do realise this may not be the preferred option.

Option 2 would be to see additional marginal planting installed as a combination of mitigation and ecological enhancement in recognition of the impact of shading. We would also like to see shade tolerant plants added to the footbridge planting area to allow for succession to a shadier environment.

Cont/d..

2

There are a number of locations that could be explored for this additional marginal planting on either side of the river. Ideally, upstream between the footbridge and Caversham bridge. We believe that much of this land is under the ownership/control of Reading Borough Council and so any discussions regarding this should include the relevant Reading BC representative.

Environment Agency Position – Flood Risk

We are pleased to see that you have used the most up to date flood model data to inform your Flood Risk Assessment (FRA). We are also pleased that the FRA includes reference to the new (as yet not yet published) Thames Mapledurham to Hurley 2019 modelling.

We are satisfied that the FRA confirms a design flood level of 38.30m AOD based on the 1 in 100 plus 35%. This level is used to inform mitigation proposals in the form of compensatory floodplain storage. Fig 4.1 (Modelled extents with allowance for climate change) provides a really useful illustrative drawing of how the design flood event will impact the site presently. It uses modelled levels from the River Thames in comparison with detailed topographic survey data for the site. This shows that the site is impacted by the 1 in 100 plus 35% design event to the north of the site (adjacent to the river) and to a small portion to the South East of the site.

We are satisfied that there is a commitment to safety of the development within the FRA by proposing to set Finished Floor Levels (FFLs) of the new buildings at a minimum of 38.60 metres AOD thereby providing a degree of resilience above the design flood level.

In line with best practice, we would normally expect a developer carries out level for level compensation for any loss of flood storage up to the 1 in 100 plus 35% flood level. The compensation provides an additional volume of floodplain storage at each 100mm depth band up to the final band as detailed on plan 47500/4001/003 Flood Storage Analysis. At this highest band we note a 'loss' of 6.7 m³. However, the overall benefit of the flood compensation being provided is 118 m³ and provides significant betterment at all water levels up to the final band. We also note that due to the topographic constraints within the brownfield redevelopment it has not been possible to offset this minor change in floodplain storage during the highest order floods. In this specific instance we are therefore satisfied with the compensation provided.

The report notes that proposals to reduce the impacts of flooding in north Reading and Caversham are being developed. These design proposals take account of potential future flood alleviation works. This follows discussions with the developer and their consultant to ensure that the development proposals allow for integration of future works to a pre discussed design standard. We therefore recommend the following condition.

The proposed development will only meet the National Planning Policy Framework's requirements in relation to flood risk if the following planning condition is included.

Condition

The development shall be carried out in accordance with the submitted flood risk assessment and the following mitigation measures it details:

- Finished floor levels shall be set no lower than 38.60 metres above Ordnance Datum (AOD)
- Compensatory storage shall be provided *in accordance with plan 47500/4001/003 Flood Storage Analysis*

Cont/d..

3

- These design proposals take account of potential future flood alleviation work

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/ phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reasons

- To reduce the risk of flooding to the proposed development and future occupants
- To prevent flooding elsewhere by ensuring that compensatory storage of flood water is provided
- To ensure the structural integrity of the *or proposed* flood defences thereby reducing the risk of flooding

Environment Agency Position – Contaminated land

Given that the site investigation found relatively low levels of contamination it is expected that limited remedial works will be required from the perspective of controlled waters. In addition as the proposed drainage solution is not proposing to use infiltration there is unlikely to be any mobilisation of contaminants within the soils. There is still a slight uncertainty that the cable oil leak that affected the adjacent site may have impacted the margins of proposed development site, therefore we request the following conditions.

Condition 1

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to, and approved in writing by, the local planning authority. The remediation strategy shall be implemented as approved.

Reason

There is a known cable oil spill on the adjacent site which may have crossed the boundary.

- To ensure that the development does not contribute to, and is not put at unacceptable risk from or adversely affected by, unacceptable levels of water pollution from previously unidentified contamination sources at the development site. This is in line with paragraph 170 of the National Planning Policy Framework.

Condition 2

The development hereby permitted may not commence until such time as a scheme to

- secure de-watering of the site
- specify the form of foundations

Has been submitted to, and approved in writing by, the local planning authority. The scheme shall be fully implemented and any changes as may subsequently be agreed, in writing, by the local planning authority.

Reason

To ensure that the proposed development, piling does not harm the water environment in line with paragraph 170 of the National Planning Policy Framework

Cont/d..

4

Advice for Local Planning Authority

If you are minded to approve the application contrary to our objection, please contact us to explain why material considerations outweigh our objection. This will allow us to make further representations. Should our objection be removed, we will recommend the inclusion of ground contamination, biodiversity and flood risk conditions on any subsequent approval.

In accordance with the planning practice guidance (determining a planning application, paragraph 019), please notify us by email within two weeks of a decision being made or application withdrawn. Please provide us with a URL of the decision notice, or an electronic copy of the decision notice or outcome.

Final Comments

We are reliant on the accuracy and completeness of the reports in undertaking our review, and can take no responsibility for incorrect data or interpretation made by the authors.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours faithfully

Kirsty Macpherson on behalf of

Miss Michelle Kidd
Planning Advisor

Direct dial 02030259712
Email planning_THM@environment-agency.gov.uk

End

5

Appendix G: River Thames Mark Up 448.300.LAND.003



Appendix H: Introduction to 'Keeping Rivers Cool' (2016)

1. Introduction

Historically in the UK, the land beside natural rivers and streams, and their floodplains, were more extensively wooded than they are today. Much of this tree cover has been lost¹. Woody debris would also have been a common feature in river channels.

Shading from riparian trees and shrubs can help reduce local stream temperatures, with summer mean and maximum water temperatures on average 2°C – 3°C lower in shaded areas than in open rivers². Increasing riparian tree and shrub cover also provides in-stream woody debris which is beneficial for many species of plants, invertebrates and fish³.

Climate change and river temperature

The threat from climate change to river ecosystems cannot be ignored. In the next 60 – 70 years, projected increases in water temperatures will make some rivers inhospitable for our freshwater wildlife, upsetting finely balanced ecosystems. It is imperative that we find ways of keeping rivers cool to mitigate the effects of climate change. Using trees, shrubs and other vegetation to create shade is a low-risk action which can deliver a range of ecological benefits and provide a good start to keeping rivers cool.

Current projections show that average summer air temperatures will rise between 2°C and 4°C by the 2050s compared to the long-term 1961 – 90 average temperature⁴. River temperatures are also expected to rise by a similar amount⁵. Even these small changes can have an impact on the health of wildlife living in freshwaters. Brown trout and Atlantic salmon are particularly vulnerable, with an increase in water temperature to above 22°C for more than seven consecutive days being potentially lethal for brown trout⁶. Some rivers in England and Wales have already reached these lethal temperatures during recent hot, dry summers, putting trout and salmon populations under stress.

Ecological benefits

Water temperature affects all physical, chemical and biological processes in the freshwater environment. It displays natural daily and seasonal variations, depending upon location and climate⁷. Daily temperature fluctuations are more pronounced in small streams, particularly if they are not shaded. In freshwater systems, most species require a specific temperature range. For salmonids this is between 5°C and 15°C for normal growth. In smaller freshwater streams in southern England, temperatures in excess of 31°C have already been recorded⁸. This highlights the need to take

action to reduce water temperatures in streams in order to protect trout and salmon populations.

Riparian vegetation also has much wider ecological benefits as it improves habitat quality for a range of biological communities and helps to maintain ecosystem function. For example, it provides organic inputs in the form of leaf litter and insects, accounting for up to 50 per cent of the energy in a river system. Leaf litter accumulates against woody debris, providing food for shredding macro-invertebrates. Research in the UK has shown that 147 invertebrate species, some rare, are strongly associated with woody debris⁹. Otters use woody debris for 'resting' sites, and it also plays a key role in protecting salmonid fish through the creation of thermal refugia or 'cool pools'. The influence of riparian trees on the habitat quality of a river is determined by tree species, extent and structure of the woodland, and the topography of the riparian zone (please see later sections of the guide).

Wider environmental benefits

Trees, shrubs and other vegetation can also provide many additional water management benefits.

For instance:

- Trees trap and retain nutrients such as phosphates and nitrates as well as sediment in polluted run-off before it reaches rivers and streams.
- They act as a physical barrier, preventing the spray drift of pesticides from reaching watercourses.
- Water penetrates more deeply into woodland soils due to higher infiltration rates, leading to less surface water run-off.
- Trees, shrubs and large woody debris alongside and within rivers and streams and on floodplains act as a drag on flood waters; slowing down flood flows and increasing water storage.
- The ability of trees to protect soil from erosion and reduce sediment run-off helps the passage of water in river channels which reduces the need for dredging.
- Tree roots help stabilise river banks and create structural complexity in the freshwater habitat.
- The leaves, branches and trunks of trees slow the speed at which rain reaches the ground, with some rain evaporating into the atmosphere. Even in winter native deciduous trees intercept up to 12 per cent of rainfall.
- Deepwater pools can be created behind coarse woody debris dams, which in some waterbodies can help mix cooler ground water with surface water.
- Trees alongside rivers can connect areas of woodland, helping certain species move through the landscape.

¹ Peterken, G.F., Hughes, F.M.R. (1995) ² Bowler, D.E., et al. (2012) ³ Calaste, D. (2006) ⁴ Broccia, A. & Batjer, D.P. (1999) ⁵ Jenkins, G.J., Perry, M.C., and Prior, M.J. (2008) ⁶ Webb, B.W. & Nobilis, F. (1997) ⁷ Elliot J.M. and Elliot J.A. ⁸ Broadmeadow, S., et al. (2010) ⁹ Elliot, J.M. and Elliot J.A. (2010) ⁹ Godfrey, A. (2003)

Appendix I: Salix coir rolls installation guide

Coir Rolls



Key Delivery Notes

- As standard will arrive palletised on a curtain sided articulated lorry
- Suitable mechanical plant is required for offloading
- Pre-established Coir Rolls vary in weight depending on maturity of vegetation and moisture content

Weights

	Size	Weight
Unplanted	0.2m x 3m	15kg
Unplanted	0.3m x 3m	21kg
Planted	0.2m x 3m	37kg
Planted	0.3m x 3m	52kg

Unloading & Storage

All Coir Rolls should be **unloaded and laid out within 24 hours of delivery and kept wet at all times.**

In hot weather Coir Rolls should be regularly watered.



Ground Preparation and Water Levels

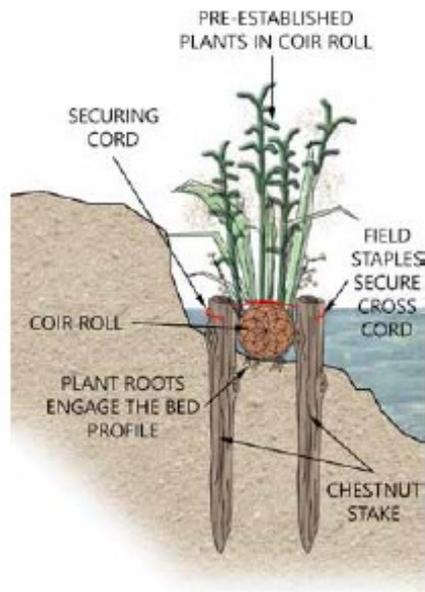
Prepare bed and bank so that top of the roll sits 25% above the average summer water level.

In order to get the Coir Roll to sit at the correct level a bed trench may be dug or alternatively the Coir Roll can be raised by placing it on a faggot/fascine or Salix Rock Roll.

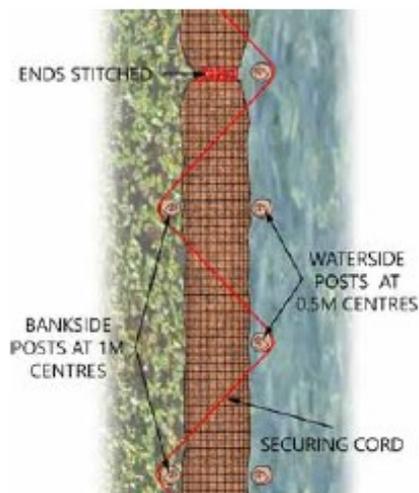
In higher energy situations a Salix Rock Roll may be required in front to protect the Coir Roll.

Installation Instructions

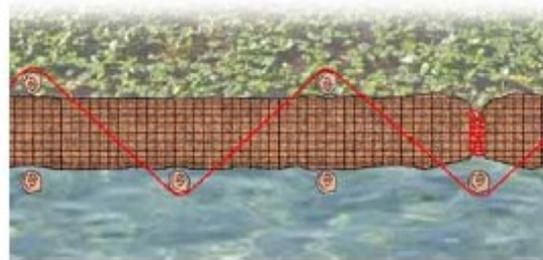
1. Drive in the stakes at 0.5m centres at the front and 1m centres at the back.



2. Lift coir roll into position.
3. Lace ends together using 3mm fixing twine



4. Hold the roll down by criss-crossing fixing twine between posts. Fix twine to the post with a fencing staple.



5. Backfill with suitable fill and consolidate or as specified.
6. Wildfowl/livestock fencing should be considered where there is a risk of grazing or trampling during the initial vegetation establishment period.

Fencing should be appropriately designed to account for any water flow, with mesh aperture that is specific to the type of waterfowl (or livestock) that is being excluded and any other site specific pressures/impacts.

Please note these are generic installation guides, if you have site specific issues please contact Salix directly.

Coir Rolls Installation guide Version 2.0

Appendix J: Two options for location of new coir rolls



Option A: This section of riverbank is heavily eroded by water fowl which are encouraged due to feeding by people.



Option B: To plant another coir roll alongside the existing roll to double the width of marginal vegetation in this section to make it more ecologically valuable and resilient.

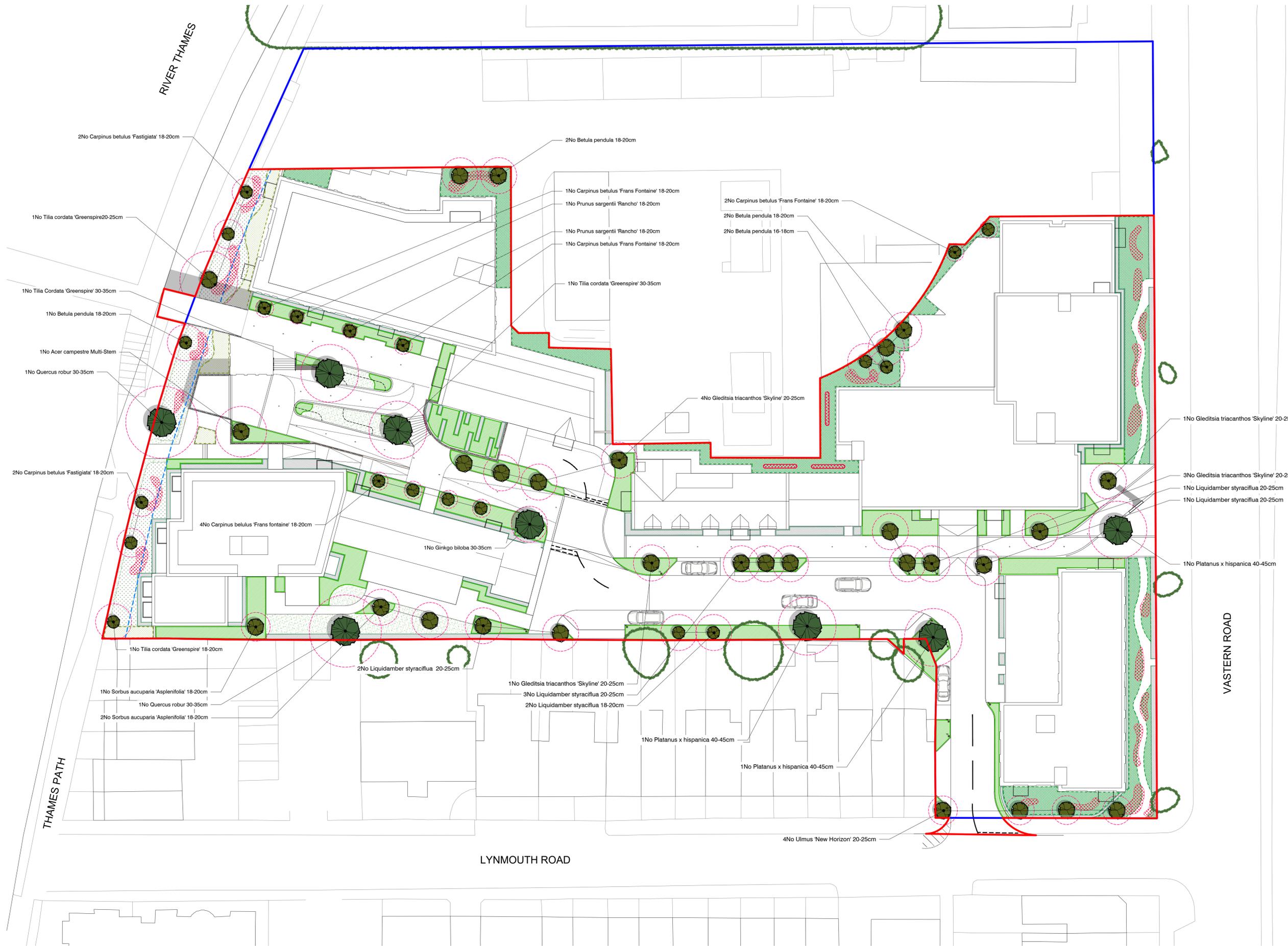


Appendix K: Photographs showing examples of the coir rolls installed along river banks

Marginal planting in deep water along hard structures



Appendix L: Planting framework plan 448.LA.102 F



- NOTES**
- THIS DRAWING IS BASED ON BERKELEY HOMES LAYOUT: 448 LAND 101
 - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER LANDSCAPE DRAWINGS AND DOCUMENTS
 - THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION
 - DO NOT SCALE FROM THIS DRAWING
 - ANY DISCREPANCIES WITHIN THIS DRAWING OR BETWEEN THIS DRAWING AND ANY OTHER INFORMATION IS TO BE REPORTED TO BERKELEY HOMES CONCORD CHITERS FOR CLARIFICATION

KEY

APPLICATION AREAS & CONTOURS

- EA BUFFER
- EA OFFSET
- EARTHWORKS CONTOURS

SOFT LANDSCAPE

- EXISTING TREES RETAINED
- LARGE FEATURE TREES
REFER TO PLAN FOR LOCATIONS
Ginkgo biloba
Platanus x hispanica
Quercus robur
- MEDIUM SIZED TREES
REFER TO PLAN FOR LOCATIONS
Acer campestre Multi Stem
Betula pendula
Carpinus betulus
Gleditsia triacanthos 'Skyline'
Liquidamber styraciflua
Ulmus 'New Horizon'
- SMALL SIZED TREES
REFER TO PLAN FOR LOCATIONS
Carpinus betulus 'Frans Fontaine'
Corylissiliquastrum
Sorbus aucuparia 'Asplenifolia'
Tilia cordata
- 25 YEAR CANOPY COVER
OPTIMUM CANOPY COVER FOR TREE AFTER 25 YEARS
- AMENITY SHRUB MIX
POTENTIAL SPECIES INCLUDE
Carex obovata 'Emerald'
Deschampsia cespitosa 'Goldstar'
Germium Johnsoni 'Blue'
Hebe 'Cherryblossom'
Helleborus 'Stardust'
Lonicera angustifolia 'Yellowstar'
Pittosporum tenuifolium 'Gold Ball'
Rosa rugosa
Saxifraga
Saxifraga oppositifolia
Saxifraga oppositifolia
- HERBACEOUS PLANT MIX
POTENTIAL SPECIES INCLUDE
Ajuga reptans
Blechnum spicatum
Dryopteris affinis 'Cristata'
Equisetum x peraristatum 'Frontrider'
Equisetum pulgillum
Equisetum arvense var. *robustum*
Lilium muscivivum
Stachys spicata 'Silver Carpet'
- NATIVE SHRUB MIX
POTENTIAL SPECIES INCLUDE
Acer campestre
Cornus sanguinea
Corylus avellana
Crataegus laevigata
Ilex aquifolium
Prunus padus
Rhamnus cathartica
Rosa canina
Viburnum lantana
Viburnum tinus
- BULB PLANTING
POTENTIAL SPECIES INCLUDE
Colocasia 'Emerald Star'
Crocus 'Emily McKenzie'
Hyacinthoides non-scripta
Narcissus 'Tete a Tete'
Narcissus pseudonarcissus
- HEDGEROW
POTENTIAL SPECIES INCLUDE
Eurosaia japonica 'Jewel Hedges'
Fagus sylvatica
- FLOWERING LAWN GRASS MIX
E17 Seed Mix or similar
- SPECIES RICH GRASSLAND MIX
E88 Seed Mix or similar

PLANNING

revision	date	prepared	description
F	12/01/21	TN	Tree Species Changes
E	21/06/20	TN	Minor Layout Updates
D	22/06/20	TN	River Corridor Planting Update
C	08/06/20	TN	Minor amendments to road layout
B	20/05/20	TN	Minor amendments
A	10/02/20	TN	Minor amendments to tree planting

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project
VASTERN ROAD

drawing
LANDSCAPE PLANTING FRAMEWORK PLAN

date
January 2020

scale @ a1 (a3)
1:250 (1:500)

drawn
TN

drawing number
448.LA.102

revision
F

