Bristol Tree Forum Submission
Hengrove Leisure Park Hengrove Way Bristol BS14 0HR - 21/00531/P | Outline planning application for demolition and residential-led redevelopment

Figure 1: Hengrove Leisure Park (Google Earth)

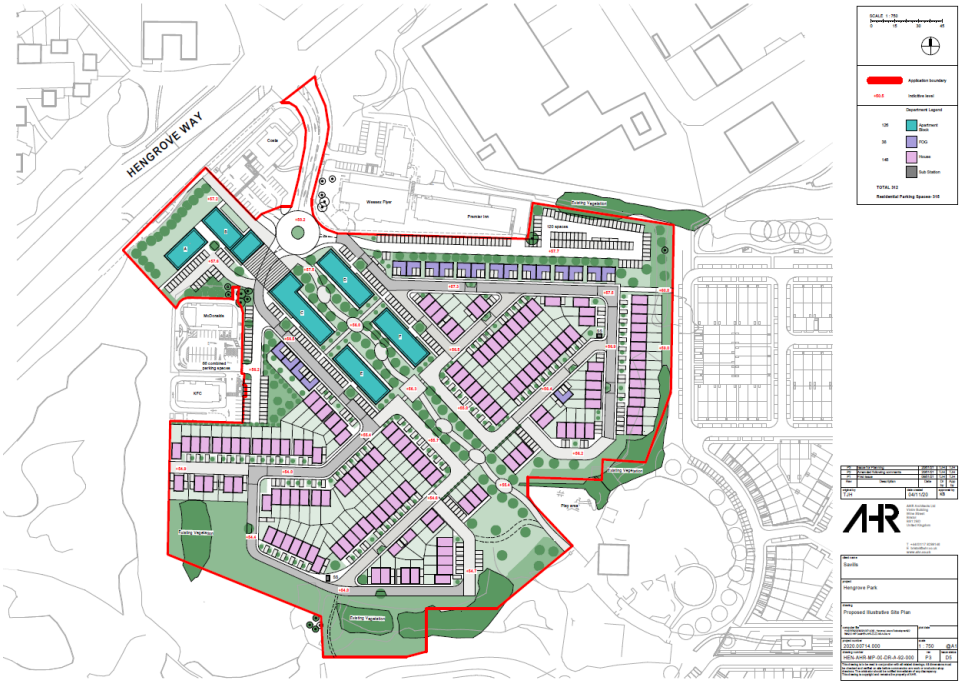

Figure 2: The planned layout

Introduction

The Bristol Tree Forum would like to draw your attention to the following concerns about the future of the trees on the site of the proposed development at Hengrove Leisure Park:

1. The Mitigation Hierarchy, described below, says that trees should not be removed unless there is no realistic alternative. One option would be to build around the trees rather than remove them. The trees on this site have been growing here for at least 20 years. They were clearly planted as part of an earlier development and have survived despite being in a car park.

2. Bristol City Council has declared climate and environmental emergencies and is committed to:

   - becoming carbon neutral by 2030
   - doubling tree canopy cover by 2046.

   As currently formulated, these plans to build new houses will set back the work needed to address these emergencies and achieve these commitments.

3. The need to build housing to meet sustainable economic and social development objectives should not take precedence over the need to ensure that the development is also both environmentally sustainable and meets Net Gain objectives. This is a clear directive under the National Planning Policy Framework (see below).

4. The existing trees have a significant asset value which should not be ignored. Using CAVAT, we have valued them at more than **£ 2,864,000**.

5. BCS9 of the Core Strategy also states that "Individual green assets should be retained wherever possible and integrated into new development". It is clear that this is possible in this case - felling many of the trees on the site should not be the default option.

6. The removal of existing trees inevitably means that the eco-services they provide will not be replaced for decades, if at all.

7. There is no evidence that these proposals will achieve adequate Biodiversity Net Gain. The adverse knock-on environmental impact on biodiversity of removing existing trees far outweighs the short-term benefits achieved by replacing them.

Whatever the merits of this application, it should not be permitted to proceed until it has properly addressed how it will replace and build upon the Green Infrastructure (including trees) that will inevitably be lost if this application proceeds.

1. The background

The site in its context

Hengrove Leisure Park is a seven-hectare[1] site which forms part of three proposed developments: the other two are Hengrove Park to the east and Christopher Brain Street (already under development) to the south. The plan is that they will provide over 1,800 units of housing and related services. Figure 3 shows how the sites will eventually look.

Figure 3: All three sites integrated

The impact of cumulative tree loss

Plans to remove 723 trees from the nearby site at Hengrove Park have already been approved, subject to their replacement with 1,280 trees as part of the subsequent development. A

[1] Using the plans provided, we have measured the site at about 71,900 sq. metres.

substantial number of these will be from around the play park to the south-east of the leisure park. (Some of these trees will be thinned but we estimate that about 75% of them will be lost.) The fact that these trees were only planted some 12 years ago to create a screen around the play area will not save them[2].

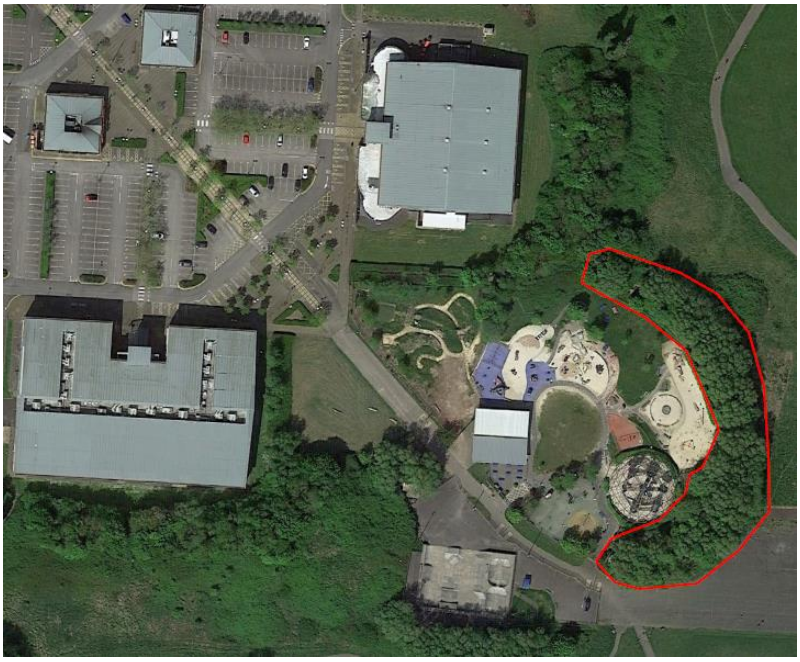

Figure 4: Trees identified for thinning and removal around the play park

Taken as a whole, these three developments will result in the removal of over 1,500 well-established, mature and semi-mature trees. We are told that these lost trees will, in due course, be replaced. How and when this will happen remains uncertain, however, and in any event, it will take at least another 20-30 years before any new trees can replace all the benefits of the existing trees. In short, we are being asked to accept the replacement of what already exists with a promise of future trees that may never be realised.

The impact on Hengrove Mounds

Hengrove Park is a site of Nature Conservation Importance (SNCI). The adjacent Hengrove Mounds is a UK Priority Habitat.

The presence of a dual carriageway, Hengrove Way to the north, and Whitchurch Lane to the west effectively isolates Hengrove Mounds from the green infrastructure to the west. The only remaining green access is eastward into Hengrove Park via a narrow corridor between Hengrove

[2] See 19_02632_PB-ARBORICULTURAL_OFFICERS_COMMENTS-2171141, part of the documents published in planning application 19/02632/PB

Leisure Park and the development at Christopher Brain Street to the south.

The developer's ecological report[3] describes the Mounds as in poor condition; to mitigate this £80,000 has been set aside for its management and maintenance as part of the Planning Obligations agreed for the Hengrove Park development[4]. Once the Hengrove Park development is complete, the Hengrove Mounds will effectively become isolated from their surrounding habitats and so suffer yet further environmental degradation. This has not been considered in these plans nor, so it seems, in the other development plans. The Arboricultural Planning Officer also raises this concern (see their comments below).

Hengrove Leisure Park

In January 2021 the developer published an Arboricultural Impact Assessment (AIA) in accordance with BS 5837: 2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*. We have used the values given in this AIA survey for this analysis.

While the survey appears to be somewhat formulaic, this is perhaps understandable given the large number of trees surveyed. However, it is unclear why this healthy population of relatively young trees should be allocated only 10+ or 20+ years of estimated remaining life expectancy (the terms '10+' and '20+' need to be defined). Many of the trees surveyed have life expectancies of much more than 100 years. Nothing has been disclosed which says that this is not the case.

Figure 5: Some of the car park Planes

We have also read the comments of the Arboricultural Planning Officer, who commented in screening application 20/05651/SCR (a request for a screening opinion as to whether an Environmental Impact Assessment (EIA) was required for the demolition and redevelopment of

[3] 21_00531_P-ECOLOGICAL_ASSESSMENT-2860107
[4] 19_02632_PB-PLANNING_OBLIGATIONS_REVISED_SCHEDULE-2481904

the leisure park) as follows:

> *The report negates to mention the extensive tree planting within the car park which provides canopy cover and some ecological value. The re-development of the site will likely require the removal of most if not all of these trees and therefore adverse effect on the canopy cover of the site.*
>
> *Hengrove Mounds are located on the south western boundary of the proposed development and therefore the connectivity of green infrastructure with surrounding environments needs to be assessed.*

Despite his view that an EIA was needed, none was obtained. This application assigns low connectivity values to the habitats on this site. We do not agree with this assessment for the following reasons.

The ecological report[5] makes the following observations about the trees growing in and around the site:

> ***Semi-mature ornamental trees***
>
> *Throughout the site the pedestrian routes are lined with planted street trees for amenity value…. Species include; London plane Platanus x hispanica, birch Betula sp., ash Fraxinus excelsior, pear Pyrus communis and cherry Prunus avium. These were planted as part of the leisure park development and have amenity value, however, due to their setting within a well-lit, urban landscape their value for wildlife is poor.*
>
> *Alder Alnus glutinosa and willow Salix sp., and ash Fraxinus excelsior, were also noted around the perimeter of the site and within the south western parcel.*
>
> ***Semi-mature woodland***
>
> *Around the boundary of the site to the south west are areas of semi-mature woodland…that, based on historical aerial imagery is self-seeded. Woodland species were dominated by sycamore Acer pseudoplatanus, alder and field maple Acer campestre. The woodland to the south west had limited understory vegetation with bramble and ivy Hedera helix noted.*

In our view the report undervalues the importance of the linear tree features running roughly north to south and east to west across the car parks. These comprise healthy populations of maturing trees which have developed interconnected canopies, some with associated hedge features below. Taken as a whole, these form valuable networks of wildlife corridors.

[5] 21_00531_P-ECOLOGICAL_ASSESSMENT-2860107

Why does 'self-seeded' always have negative connotations when used in a planning context? Most woodlands are self-seeded and the mixed native woodland around the site boundaries – nearly 3,000 sq. metres of which is identified for removal – is typical of these natural habitats and sustain a rich biodiversity.

Our calculations

The survey identified 296 tree features, of which ten are tree groups and the rest individual trees. The developer plans to remove or partially remove 277 of these 296 tree features. We calculate that, in fact, 816 trees are identified for removal, of which 271 are individual trees. The remaining 545 trees make up the six tree groups identified for either complete or partial removal. We have calculated the number of trees in each tree group by dividing the group areas identified for removal by the average tree canopy cover (TCC) of the trees for each group.[6]

On this basis, we calculate that the trees on site have a TCC of 6,720 sq. metres. The percentage TCC of the site is therefore 9.3%. Of this TCC, the plan is to remove 6,508 sq. metres. This is 97% of all the TCC that the site provides.

Using this information, we have calculated that 602 replacement trees will need to be planted under the Bristol Tree Replacement Standard (BTRS).

We have also undertaken a biodiversity metric calculation using the current (beta) version of the Biodiversity Metric 2 (BDM)[7]. We calculate that the site has **13.09** baseline biodiversity units (BU). We have applied the parameters for the *Woodland and forest - Other woodland; broadleaved trees* habitat category to all the trees surveyed. In our view, this better represents the ecosystem services provided by the trees on this site rather than the *Woodland and forest - Other woodland; mixed* and *Urban - Street Tree* categories used in the application.

The developer has set Ecological Connectivity at Low. Given our observations above we have set it at Medium. We have also set Habitat Condition at Moderate rather than Low.

On this basis, the trees growing on the site have a baseline BU value of **5.91** and those identified for removal have a baseline value of **5.73** BU. If removed, these trees would require replacement, on a Zero Net Gain basis, with 28,319 sq. metres of new habitat[8]. With 10% Net Gain added, this increases to 31,151 sq. metres of new habitat required – **6.30** BU.

Based on a Time-to-Target of 30 years for the *Woodland and forest - Other woodland; broadleaved trees* category – Select Standard trees with a stem diameter of 34 mm planted

[6] TCC is calculated as πr^2 where r = the average reported branch spread. We have used TCC rather than RPA (Root Protection Area) because branch spread is reported in the AIA and more accurately reflects the ecoservices that trees provide than does a RPA value which is based on a standard formula - RPAr = 12 x DBH (called 'stem diameter' in the AIA). – used in BS5837:2012.

[7] We understand that version 3 is due to be published in the Spring.

[8] TCC is used as a proxy for BDM tree habitat areas.

today will have a canopy of 13.6 sq. metres by the end of the 30-year Time-to-Target period – then we calculate that 2,290 replacement Select Standard trees will be needed to replace the ecoservices lost if these trees are removed.

The developer plans to plant 305 replacement trees on site. This will provide immediate TCC of 1,379 sq. metres[9] and, eventually, 4,148 sq. metres by the end of the 30-year Time-to-Target period (assuming they survive and grow this large).

This leaves a balance of 27,003 sq. metres of TCC needing to be replaced offsite. At 13.6 sq. metres per tree (by the end of the 30-year Time-to-Target period), then 1,985 Select Standard trees would need to be planted. If it were considered that the cost of doing this would be prohibitive[10], then, as an alternative, woodland areas could be planted with whips at a density of one tree per 9 sq. metres. This would require 3,000 whips to be planted instead.

The developer could also to mitigate its tree replacement obligations by transplanting trees growing in the carpark to the planned onsite locations and/or to offsite locations approved by Bristol City Council.

A summary of this analysis is set out at the **Annex 1** below. Our detailed analysis can be downloaded here - **Hengrove Leisure Park - BTF Tree Analysis**.

2. The justification for our approach

The National Planning Policy Framework

The National Planning Policy Framework (NPPF) seeks to ensure that new development is sustainable. It stresses the importance of Green Infrastructure as one of three overarching, interdependent objectives – economic, social, and environmental. This means that the presumption in favour of sustainable environmental development is just as important as any which are related to economic or social development objectives.

Trees are an integral part of this because of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services, climate change adaptions and beneficial health effects. The NPPF also seeks to achieve the protection and enhancement of landscapes and achieve Net Gain in biodiversity.

BDM provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change. It defines Net Gain as an:

> *…approach to development that aims to leave the natural environment in a measurably*

[9] According to the BDM formula for a small tree.
[10] The BTRS cost for planting a tree on open ground is £765.21. It costs £3,301.88 to plant it in a tree pit in hard standing.

better state than beforehand. This means protecting existing habitats and ensuring that lost or degraded environmental features are compensated for by restoring or creating environmental features that are of greater value to wildlife and people. It does not change the fact that losses should be avoided where possible, a key part of adhering to a core environmental planning principle called the mitigation hierarchy.

The mitigation hierarchy

Trees should not be removed merely to facilitate the developer's vision. Ideally, development should always be planned around existing trees. This is because, in all cases, a tree retained offers far more benefits and ecoservices than newly planted trees, no matter how many, whose potential will take years to be realised, if indeed it ever is.

The mitigation hierarchy provides a cascading decision process: only if the preceding choice is unavailable is the next one considered.

- Avoid - Where possible, habitat damage should be avoided.
- Minimise - Where possible, habitat damage and loss should be minimised.
- Remediate - Where possible, any damage or lost habitat should be restored.
- Compensate - As a last resort, damaged or lost habitat should be compensated for.

Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees is therefore a material consideration.

BCS9 – Green Infrastructure

BCS9 of Bristol's Core Strategy states that "Individual green assets should be retained wherever possible and integrated into new development".

BTRS and the Biodiversity Metric are two tools which can be used by the planning authority to ensure that:

- The integrity and connectivity of the strategic green infrastructure network will be maintained, protected and enhanced.
- Opportunities to extend the coverage and connectivity of the existing strategic green infrastructure network are taken.
- Individual green assets are retained wherever possible and integrated into new development.

- Appropriate mitigation of the lost green infrastructure assets is required. Development should incorporate new and/or enhanced green infrastructure of an appropriate type, standard and size.

- Where on-site provision of green infrastructure is not possible, contributions will be sought to make appropriate provision for green infrastructure off site.

We have summarised Bristol's planning policies as they relate to trees here - Planning obligations in relation to trees in Bristol.

Bristol Tree Forum
February 2021

Annex 1

Biodiversity Metric Calculation Summary

Estimated Site TCC	Ha	BDM2 Model	m^2	Ha	% TCC	Biodiversity Units
		Site TCC	6,720	0.6720	9.3%	5.91
	7.19	Baseline Habitat Lost	6,508	0.651	97%	5.73
		New Habitat Needed	28,319	2.832		5.73
Add	10%	Net Gain	31,151	3.115		6.30
		Habitat Added	2,832	0.283		0.57

Tree Replacement Equivalent - assumes Select Standard trees with a stem diameter of 35 mm are planted which will each reach 13.6 m^ canopy in 30 years	2,290
Onsite Planting	305
BDM Net Trees	1,985
Onsite Tree Canopy @13.6 m^	4,148
Net BDM Tree Canopy	27,003
Total new Canopy	31,151

Tree Planting Costings			
Replacement Trees (Select Standards)	BTRS	BDM2	
	602	2,290	
Planned Onsite Planting	305		
Net Offsite Planting	297	1,985	
Onsite Planting	£ / Tree	Tree Nos.	Cost
Tree in Open Ground	£ 765.21	305	£ 233,389.05
Tree in Hard Standing	£3,301.88		£ 1,007,073.40
Costings for BTRS/BDM Trees	£ / Tree	Tree Nos.	Cost
Tree in Open Ground	£ 765.21	1,985	£ 1,518,941.85
Tree in Hard Standing	£3,301.88		£ 6,554,231.80
BDM Net Woodland Setting Schema (1 tree per 9 m^2)			
Net BDM Area after Time-to-Target Achieved (m^2)			27,003
Plant Feathers	£ 1.76	3,000	£ 5,280.57