

Design, Access and Planning Statement

Erection of a Replacement Dwelling at 9 Tarn Moor Crescent, Skipton. BD23 1LT



Project Number:	Cat.	CI/Sfb	Report No.:	Version:
403	IN	20	501	0

Date: 31/01/2021

Prepared by: Mark Siddall BA (Hons), BArch, RIBA, CEPH

Prepared for: **Tom and Helen White**
17 West Bank Road
Skipton
DB23 1QT

LEAP

Low energy : Environment : Architecture : Performance

3 Toll House Road, Durham, DH1 4HU

m: +44(0)7795 031 700

t: +44(0)191 375 7702

BLANK

Revision register

Version	Changes from previous version	Issued by	Date
1	Sections 1, 12 and 14 updated	MJS	02/02/21
2	Section 14 updated (Topography and Levels; Scale, Form and Massing)	MJS	03/03/21
3	Section 14 updated (Overshadowing, Overlooking and Privacy)	MJS	16/03/21
4	Change in status to Design and Access Statement	MJS	19/03/21
5	Adjacent Plots: Figure 14.4 added. observations regarding 7 Tarn Moor Crescent updated.	MJS	22/03/21
6	PLANNING ISSUE	MJS	16/04/21
7	Figure 10.1 updated and Figure 10.2 added. Preceding paragraphs updated accordingly.	MJS	21/04/21

Disclaimer

This report has been prepared for the sole benefit of the applicant/s to support their planning application and should not be reproduced in whole or part, nor relied upon by any third party, for any use whatsoever, without the express written authorisation from LEAP (Mark Siddall). If any third party comes into possession of this report, they rely on it at their own risk. In respect of the information contained in the report, LEAP (Mark Siddall) liability will not be extend to any third party and no duty or responsibility (including in negligence) will be accepted or given to any third party. Issued in commercial confidence.

Copyright

All concepts, data and proposals are copyright © 2020. The practice (LEAP/Mark Siddall) owns the copyright of this report and we generally assert our moral rights to be identified as author of that work under the Copyright, Designs and Patents Act 1988 but, subject to payment and/or other amounts properly due, you may copy and use this statement for purposes related to your project only.

Your right to copy and use does not extend to any future purchaser, leaseholder or tenant of your property without our prior agreement.

Contents

1. PROJECT INTRODUCTION.....	5
2. GENERAL CONTEXT FOR DECISION MAKING	11
3. NATIONAL POLICY: CONTEXT	12
4. NATIONAL POLICY: DELIVERING A SUFFICIENT SUPPLY OF HOMES	12
5. NATIONAL POLICY: BUILDING A STRONG, COMPETITIVE ECONOMY	16
6. NATIONAL POLICY: PROMOTING SUSTAINABLE TRANSPORT.....	16
7. NATIONAL POLICY: MAKING EFFECTIVE USE OF LAND	18
8. NATIONAL POLICY: PROTECTING GREEN BELT LAND.....	18
9. NATIONAL POLICY: MATERIAL CONSIDERATIONS: PREVIOUSLY DEVELOPED LAND	19
10. NATIONAL POLICY: MEETING THE CHALLENGE OF CLIMATE CHANGE.....	20
11. NATIONAL POLICY AND INNOVATION	24
12. LOCAL DEVELOPMENT PLAN.....	38
13. CONSERVATION AREA STATUS.....	40
14. APPRAISAL AND PLANNING BALANCE	42
15. CONCLUSION.....	53
Suggested Planning Conditions.....	54
About the Author:	55

1. PROJECT INTRODUCTION

1.1 APPLICANT'S ASPIRATIONS

Statement of Need Dr and Dr White bought the site in 2019. The applicants are retiring and will move to the proposed house for a change of lifestyle.

The applicants have a long-held aspiration to create a self or custom-built home in a form that will support them throughout their years of retirement. They have a deep interest in sustainable development and sustainable living and wish to create an affordable, comfortable, low-energy home with a significantly reduced carbon emissions and reduced environmental impact, whilst also meeting their practical needs – both today and in the future. The aspiration is for the house to achieve the Passivhaus Standard.

The applicants consider a replacement dwelling on this site is well considered because the existing bungalow:

- Does not provide the required accommodation i.e. 4 bedrooms, a kitchen/dining, living room, WC, Utility room, 1 Bathroom and 1 en suite.
- Is poorly built and is in a poor state of repair

When compared to the proposed replacement dwelling, is responsible for excess carbon emissions

Further information about the site, planning context and the proposal are given in the remaining sections of this report.

1.2 APPLICATION SITE

Site Description The site is in a built-up area. Located within Skipton it falls under the NPPF's definition of brownfield land.

The existing dwelling is positioned 2.8m above the street level with a steep external staircase leading to the front door (Figure 2a, 2b, 2c). The grounds are screened by existing (non-native) trees that are overgrown and overshadow the existing dwelling. A steep ramp and another staircase lead to the back garden. As such the existing dwelling does little to address the street and would poorly serve elderly owners carrying shopping during icy winters.



Figure 1.1: Plan showing Site Boundaries

Existing Dwelling	The existing bungalow features 2 bedrooms, 1 bathroom and 1 reception room.
Pedestrian Access and Adaptability	The existing bungalow is accessed via a steep flight steps that do nothing to provide access for any person with impaired movement. This also makes accessing the dwelling with shopping or prams very difficult.
Vehicular Access and Parking	The existing driveway has space for two cars.
Access	The site is located within a suburban area 15 minutes walking distance of the town centre whilst also being within and easy walk to two bus stops.
Site Area	The application site occupies 687 sqm (0.069 hectares/ 0.17 acres.)
Biodiversity	Refer to Ecological Impact Assessment report.
Non-mains Drainage Assessment	The existing site is supplied by mains water and a mains drainage system.

Adjacent Ownership	There are existing dwellings to the north, east, south and west of the site. These are under separate ownership.
Character	The existing bungalow is drab, tired and detracts from the existing street setting.



Figure 1.2a: Steep ramp leading to car port and access for back garden



Figure 1.2b: Existing dwelling shielded by existing trees



Figure 1.2c: Steep stairs leading to front door



Figure 1.2d: Existing street scene



Figure 1.2e: In 2020 the vegetation and car port were removed revealing the actual condition of the existing dwelling.



Figure 1.2f: Steep ramp leading to parking/site of former car port



Figure 1.2g: Existing street scene



Figure 1.2h: Existing street scene

1.3 CONTEXTUAL ANALYSIS

Topography and Streetscape

The topography of the surrounding area falls from Ridgeway, which lies to the west of the site, down toward the B6265 which lies to the east of the site. The north/south stretch of Raikes Road (which lies to the north of the site) rises up one side of the hill and then after turning through 90 degrees (at the interface with White Hills Land), falls from west to south.

The curved street of Tarn Moor Crescent forms a curvilinear link between the north/south and the west/south stretches of Raikes Road. In doing so it traverses the topography between high-level and low-level connection points.

Character Area Assessment

With regard to the street scene, Tarn Moor Crescent is made up of varying types and styles of property, and there is no set design or predominant use of materials.

The dwellings surrounding the site all appear to have been built since the 1980's and, owing to many of them being speculative development these houses have little or no specific architectural value.

It is understood that some two-storey replacement dwelling have been constructed on the street. These vary in style to such an extent that the street has no definable character.



LEAP

Low energy : Environment : Architecture : Performance

3 Toll House Road, Durham, DH1 4HU
m: +44(0)7795 031 700
t: +44(0)191 375 7702



Figure 1.4: Surrounding properties

2. GENERAL CONTEXT FOR DECISION MAKING

2.1 STATUTORY REQUIREMENTS

Section 70(2) of the Town & Country Planning Act 1990, requires a Planning Authority, when dealing with any planning application, to have regard to the provisions of the Development Plan, so far as material to the application, and to any other material consideration.

Furthermore, s38(6) Planning and Compulsory Purchase Act 2004 (“PCPA 2004”), formerly s54A, provides: ‘If regard is to be had to the development plan for the purposes of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations dictate otherwise’.

2.2 THE DEVELOPMENT PLAN: CASE LAW AND MATERIAL CONSIDERATIONS

Case law has determined that policy statements such as the Development Plan “should be interpreted objectively in accordance with the language used, read as always in its proper context” *Plan (Tesco Stores Limited v Dundee City Council [2012] UKSC 13)*.

Furthermore, the Development Plan must be read as a whole, with a focus on its relevant objectives and the policies which give effect to those objectives: see *Crane v Secretary of State for Communities and Local Government [2015] EWHC 425 (Admin)*, per Lindblom J.

In taking a decision on any application the Planning Authority is required to consider more than conflict with any single policy before determining whether an application is out of accord with the Development Plan as a whole (*Cummins v L B Camden [2001] EWHC Admin 1116*).

There is no statutory definition of what material considerations are. The Courts have considered this issue and determined:

in principle any consideration which relates to the use and development of land is capable of being a planning consideration. Whether a particular consideration falling within that broad class is material in any given case would depend on the circumstances. (Stringer v MHLG, 1971).

For a consideration to be material it must be related to the development and use of land in the public interest and fairly and reasonably relate to the application concerned.

In judgement of *R v Westminster City Council ex parte Monahan [1989]* at the Court of Appeal Lord Justice Kerr said, ‘Financial constraints on the economic viability of a desirable planning development are unavoidable facts of life in an imperfect world.

It would be unreal and contrary to common sense to insist that they must be excluded from the range of considerations which may properly be regarded as material in determining planning applications. Where they are shown to exist, they may call for compromises or even sacrifices in what would otherwise be regarded as the optimum from the point of view of the public interest. Virtually all planning decisions involve some kind of balancing exercise. [Provided] that the ultimate determination is based on planning grounds and not on some ulterior motive, and that it is not irrational, there would be no basis for holding it to be invalid in law solely on the ground that it has taken account of, and adjusted itself to, the financial realities of the overall situation.'

The Courts have held that the Government's statements of planning policy are material considerations which must be taken into account, where relevant, in decisions on planning applications. Such statements cannot make irrelevant any matter which is a material consideration in a particular case. But where such statements indicate the weight that should be given to relevant considerations, decision-makers must have proper regard to them. If they elect not to follow relevant statements of the Government's planning policy, they must give clear and convincing reasons. (E C Grandson and Co Ltd v SSE and Gillingham BC 1985).

Thereby giving effect to relevant objectives and policies including those relating to the broad sustainable development objectives stated in the Plan.

3. NATIONAL POLICY: CONTEXT

Consideration of Harm The National Planning Policy Framework (NPPF) is a significant material consideration all relevant policies tabled in this have taken into account.

The main issue for this project is whether the proposed development would be appropriate or inappropriate development for the purposes of the NPPF and development plan policy.

By definition, any harm needs to be outweighed by other considerations which amounted to the very special circumstances required to justify a granting of permission.

It is believed there is a strong argument in favour of this development. In this context the following sections of this report identify policy and design decisions that inform the application.

4. NATIONAL POLICY: DELIVERING A SUFFICIENT SUPPLY OF HOMES

4.1 SELF-BUILD

Paragraph 61 On self-Build the NPPF notes "...the size, type and tenure of housing needed for different groups in the community should be assessed and reflected in planning policies (including, but not limited to, those who require affordable housing, families with children, older people, students, people with disabilities, service families, travellers²⁵, people who rent their homes and people wishing to commission or build their own homes²⁶).

Where footnote 26 recognises "Under section 1 of the Self Build and Custom Housebuilding Act 2015, local authorities are required to keep a register of those seeking to acquire serviced plots in the area for their own self-build and custom house building. They are also subject to duties under sections 2 and 2A of the Act to have regard to this and to give enough suitable development permissions to meet the identified demand. Self and custom-build properties could provide market or affordable housing."

Annex 2:
Glossary Self-build and custom-build housing: Housing built by an individual, a group of individuals, or persons working with or for them, to be occupied by that individual. Such housing can be either market or affordable housing. A legal definition, for the purpose of applying the Self-build and Custom Housebuilding Act 2015 (as amended), is contained in section 1(A1) and (A2) of that Act.

Section 106
Agreements As a Self-Build the dwelling will be a permanent residence and occupied for more than 3 years.

On 11th May 2016, the Court of Appeal Civil Division reversed the 2015 High Court decision to quash the exemption from Section 106 Planning Obligations planning obligation payments for small sites.¹ In light of this recent change material consideration of the Written Ministerial Statement (WMS) is once again important due to statements regarding the use of exemptions and commuted sums.

A recap. On the 28 November 2014 a WMS on small-scale development was delivered to Parliament². A later WMS, delivered on 25 March 2015, clarified that

¹ [http://www.landmarkchambers.co.uk/userfiles/documents/R%20\(West%20Berkshire\)%20v%20%20SSCLG%20-%20transcript.pdf](http://www.landmarkchambers.co.uk/userfiles/documents/R%20(West%20Berkshire)%20v%20%20SSCLG%20-%20transcript.pdf)

² see column 54WS of <http://www.publications.parliament.uk/pa/cm201415/cmhansrd/cm141128/wmstext/141128m0001.htm> and <https://www.gov.uk/government/speeches/small-scale-developers> <http://www.parliament.uk/documents/commons-vote-office/November%202014/28%20Nov%202014/2.%20DCLG-SupportForSmallScaleDevelopersCustomAndSelf-Builders.pdf>

the 28th November 2014 WMS was *not* a change to Guidance but national planning policy.^{3 4}

The WMS contained no transitional provisions and so its implementation was immediate. An excerpt from the 28th November 2014 WMS (as remarked in footnote 2) is given below:

“(i) Developments of 10 units or 1000 sq m or less (including annexes and extensions) would be excluded from affordable housing levies and tariff based contributions;

(ii) A lower threshold would apply in designated rural areas, National Parks and Areas of Outstanding Natural Beauty (as defined in section 157 of the Housing Act 1985), with developments of 5 units or less to be excluded from affordable housing levies and tariff based contributions. Development of between 6 and 10 units would be subject to a commuted sum payable on or after completion.”

Appeal decisions

Exemption from affordable housing levies and tariff based contributions

Rockford Holdings Ltd vs. Allerdale Borough Council⁵ (Decision: 29 April 2015)

In the case of an appeal, and subsequent approval, for a small 5-household self-build development the Inspectorate was not persuaded by a Local Authority's argument that greater weight should be given to the adopted policies in the Local Plan.

It was noted that “Even if it were considered that the lower threshold set by [Core Strategy] Policy S8 should apply, in the particular circumstances of this case, the Ministerial Statement is a material consideration which outweighs Policy S8.”

Mr and Mrs Ian Ward vs. Shropshire Council⁶ (Decision 24th June 2015)

The application was for a single detached self-build and as a consequence fell below the threshold identified in the WMS. The Council drew the inspectorate's attention to the scale of local housing need and the large proportion of development which occurs on small sites. The inspectorate found that the changes to the NPPG (arising from the WMS) constituted a serious material consideration.

The inspectorate observed that planning obligations should only be sought where they meet all of the tests described in paragraph 204 of the National Planning Policy Framework⁷. In light of the WMS and its changes to the NPPG it was determined

³ “Some councils have misinterpreted the written ministerial statement of 28 November 2014, official report, column 54WS as just a change in guidance – to clarify, this was a change in national policy and we will be updating the online planning guidance/policy website to make this crystal clear.”

<https://www.gov.uk/government/speeches/planning-update-march-2015>

⁴ http://i.emlfiles5.com/cmpdoc/0/2/4/files/302997_270-west-green-road---appeal-decision.pdf?utm_source=Bidwells&utm_medium=email&utm_campaign=5874619_Planning+Alert%3a+Affordable+Housing&dm_t=0,0,0,0

⁵ <http://planning.allerdale.gov.uk/portal/servlets/AttachmentShowServlet?ImageName=328801>

⁶ <https://shropshire.gov.uk/committee-services/documents/s8592/Appeal%20Decision%20Heatherdale.pdf>

⁷ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

that enforcing a contribution would fail to meet all the tests. It was on this basis that a Section 106 was found to be inappropriate and the appeal was upheld.

IDM North London Ltd vs. Council of the London Borough of Haringey⁸ (Decision: 17 June 2015)

The WMS introducing the government plans explained that it was introduced in order to support small-scale developers and builders. When Haringey Council confirmed that the majority of its applicants are minor builders or developers the Planning Inspectorate concluded that the policy has particular relevance in Haringey.

Summary and Conclusion

Generally National Planning Policies provide *guidance* to individual decision-makers and give an indication of the principles upon which actions should be taken. The weight given to National planning policy and policy within a Local Plan requires careful consideration. It is noted that WMS clarification on 25th March 2015 confirmed government planning policy *not* Guidance.

Based upon the WMS from 28th November 2014 the proposed dwelling falls below the stated thresholds and as a consequence would be excluded from affordable housing levies and tariff based contributions. Nor would it be subject to a commuted sum on or after completion.

In light of the Court of Appeal judgement made on 11th May 2016, and on the basis that the WMS is reinstated within the NPPF, with regard to paragraph 56 there are three points to be considered. Each needs to be addressed before it can be concluded that an affordable housing contribution is appropriate to this development.

Points for material consideration include:

- Whether, in light of the WMS, a planning obligation for an affordable housing contribution is still 'necessary' to make a single self-build dwelling 'acceptable' in planning terms.
- Whether, in light of the WMS, an affordable housing contribution can still be considered 'directly related' to the development of a single self-build dwelling.
- Whether, in the case of a single self-build dwelling, it remains 'fair' and 'reasonable' to impose an affordable housing contribution on a development of this 'kind' and 'scale'.

Imposing an affordable housing contribution on a self-build dwelling would appear to disproportionate and fail to satisfy paragraph 56 assessment.

⁸ http://i.emlfiles5.com/cmpdoc/0/2/4/files/302997_270-west-green-road---appeal-decision.pdf?utm_source=Bidwells&utm_medium=email&utm_campaign=5874619_Planning+Alert%3a+Affordable+Housing&dm_t=0,0,0,0

5. NATIONAL POLICY: BUILDING A STRONG, COMPETITIVE ECONOMY

The proposed development is on previously developed land and, by offering capacity for more occupants, will improve general housing provision.

Guidance can inform an understanding of how the site may be considered:

Paragraph 84 The use of previously developed land forms a part of the core strategy and is actively encouraged. With regard to supporting a prosperous rural economy the NPPF notes “The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist.”

This is further supported by Paragraphs 117 and 138 which are itemised below.

Paragraph 177 Observes that “Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or ‘brownfield’ land.”

Paragraph 138 When drawing up or reviewing Green Belt boundaries, the need to promote sustainable patterns of development should be taken into account. Strategic policy-making authorities should consider the consequences for sustainable development of channelling development towards urban areas inside the Green Belt boundary, towards towns and villages inset within the Green Belt or towards locations beyond the outer Green Belt boundary. Where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/or is well-served by public transport. They should also set out ways in which the impact of removing land from the Green Belt can be offset through compensatory improvements to the environmental quality and accessibility of remaining Green Belt land.

6. NATIONAL POLICY: PROMOTING SUSTAINABLE TRANSPORT

Proposed Transport In light of the items below, the impact upon transport and transport networks is not considered severe:

a) The proximity of local shops and amenities means the impact of development on existing transport networks is minimised (refer to section c below).

b) The scale, location and density of the proposed development means the impact on existing or proposed transport infrastructure and its usage is negligible.

- c) By virtue of its location and the availability of local amenities the development promotes walking, cycling and public transport use
- d) to mitigate any adverse environmental impacts of traffic and transport and to maximised net environmental gains the development will include a charging point for an ultra-low emission vehicle.
- e) The proposed development makes full use of existing patterns of movement, streets and other transport considerations. To discourage vehicle ownership and reinforce the use of public transport, parking provision will reflect minimum requirements.

Paragraph 102 Notes that transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a) the potential impacts of development on transport networks can be addressed;
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

Paragraph 103 In reference to para 103 the paragraph states “The planning system should actively manage patterns of growth in support of these objectives.”

“Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.”

The use of the word ‘significant’ requires consideration. Though not the term is not defined in the NPPF common understanding would suggest it means "sufficiently great or important to be worthy of attention; noteworthy." As such the development of a single dwelling is not significant.

It is also recognised "opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.

The aim of sustainable transport is to minimise and where possible mitigate reliance on the private car. Furthermore it is acknowledged that smarter use of technologies can reduce the need to travel.

Para 103 also recognises that solutions which support reductions in greenhouse gas emissions and reduce congestion should be encouraged.

7. NATIONAL POLICY: MAKING EFFECTIVE USE OF LAND

Proposed Land Use By re-using previously developed land proposed dwelling makes effective use of land.

Paragraph 117 Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land.

8. NATIONAL POLICY: PROTECTING GREEN BELT LAND

Proposed Development The proposed development constitutes limited infill with partial redevelopment of previously developed land in an existing suburban location as such it actively preserves and supports the objectives of Paragraphs 134, 138 and 145 by making use of previously developed land. In doing so it avoids by:

- Avoiding urban sprawl
- Not contributing to the merging of one town into another
- Safeguarding the countryside from encroachment
- The preserves the setting and special character of the historic town by introducing a interesting contemporary home into an area that is otherwise not architecturally significant.
- The proposed development recycles derelict land therefore the purposes of Green Belt are not served by refusal.
- The site is well served by public transport

As such the proposed development is an exception to the principle that the construction of new buildings should be considered inappropriate in the Green Belt.

Paragraph 134 Observed that the Green Belt serves five purposes:

- a) to check the unrestricted sprawl of large built-up areas;
- b) to prevent neighbouring towns merging into one another;

- c) to assist in safeguarding the countryside from encroachment;
- d) to preserve the setting and special character of historic towns;
- e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

Paragraph 138 On protecting Green Belt land the NPPF notes “Where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/or is well-served by public transport.”

Paragraph 145 The NPF considers ‘limited infilling or the partial or complete redevelopment of previously developed land, whether redundant or in continuing use’ to be an exception to the principle that the construction of new buildings should be considered inappropriate in the Green Belt.

9. NATIONAL POLICY: MATERIAL CONSIDERATIONS: PREVIOUSLY DEVELOPED LAND

The site is on previously developed land, guidance can inform an understanding of how the site may be considered.

Annex 2:
Glossary The Glossary of the NPPF (Annex 2) defines previously developed land as “Land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure. This excludes: land that is or was last occupied by agricultural or forestry buildings; land that has been developed for minerals extraction or waste disposal by landfill, where provision for restoration has been made through development management procedures; land in built-up areas such as residential gardens, parks, recreation grounds and allotments; and land that was previously developed but where the remains of the permanent structure or fixed surface structure have blended into the landscape.”

A judgement in the case of Dartford Borough Council v Secretary of State for Communities & Local Government ([CO/4129/2015](#)), the High Court has ruled, in support of the Inspector, that on an accurate reading of the NPPF private residential gardens are only excluded from the definition of previously developed land (brownfield land) in ‘built-up areas.’

10. NATIONAL POLICY: MEETING THE CHALLENGE OF CLIMATE CHANGE

10.1 CLIMATE CHANGE

There is a presumption in favour of sustainable development. Paragraph 11 of the NPPF points out that the policies in paragraphs 18 to 219, taken as a whole, constitute the Government's view of what sustainable development means for the planning system.

Rising to the Climate Crisis

The RTPI 2018 report 'Rising to the Climate Crisis' observes that the Planning and Compulsory Purchase Act 2004 establishes the structure of the local planning framework for England, including the duty on plan-making to mitigate and adapt to climate change.

National Planning Policy Framework (NPPF), updated in June 2019, is a material consideration in planning decisions and presumes in favour of sustainable development. Local Plans should be in conformity with NPPF. However, the NPPF does not explicitly define sustainable development and consequently enables it to be defined at local level. The latest NPPF:

- 1) maintains a presumption in favour of sustainable development
- 2) tightens definitions on the presumption in favour of sustainable development
- 3) increases the emphasis on high-quality design, and
- 4) reinstates reference to the Climate Change Act 2008
- 5) Paragraph 8 of the NPPF makes clear that 'mitigating and adapting to climate change' is a core planning objective.
- 6) Paragraph 148 of the NPPF underlines that tackling climate change is central to the economic, social and environmental dimensions of sustainable development.
- 7) The NPPF (in paragraph 149 and accompanying footnote 48) expects LPAs to adopt proactive strategies to mitigate and adapt to climate change, in line with the Climate Change Act 2008 and Section 19 of the 2004 Planning and Compulsory Purchase Act.
- 8) Paragraph 11 recognises that plans and decisions should apply a presumption in favour of sustainable development.

10.2 DECLARATION OF A CLIMATE EMERGENCY

In May 2019 the U.K. Parliament declared a Climate Emergency. Then, in June 2019, made a legal commitment to achieving a 100% reduction in CO2 emissions by 2050 (i.e. net-zero Britain).

The updated Climate Change Act 2008 commits to 37% reduction by 2020, 51% by 2025, 57% by 2030, and an 100% reduction by 2050.

Heat and power for all building's account for 46% of total CO2 emissions. With regard to the Climate Emergency, buildings one of the most significant sectors that need to be addressed. (For context it should be noted that 16% of household CO2 emissions are currently unregulated.)

10.3 THE PLANNING ACT 2008

The Planning Act 2008 establishes the Infrastructure Planning Commission to, amongst other things, make provision about town and country planning.

s10 requires particular attention be given to climate change issues, as a part of contributing to sustainable development.

Following 'R (oao Friends of the Earth) v Department for Transport & Others' (27th Feb. 2020) in which the expansion of Heathrow was contested, the 'Brundtland definition' of 'sustainable development' applies: we should satisfy our own needs without compromising the ability of future generations to meet theirs. This principle requires a balanced approach to considering the environmental, social and economic factors involved.

10.4 PARIS AGREEMENT

Paris Agreement as a Material Consideration

The Paris Agreement entered into force on 4 November 2016. In recognitions of the Brundtland definition, decisions that intentionally ignore the Paris agreement, which is of obvious and prime importance to how we manage climate change both now and in the future, do not contribute to sustainable development.

In 'R (oao Friends of the Earth) v Department for Transport & Others' the High Court observed:

"...there can be some unincorporated international obligations that are "so obviously material" that they must be taken into account. The Paris Agreement fell into this category." (Judgment, paragraph 236)

It has been noted that "This [judgement] will influence all future national policy statements to be made, or reviewed, under the Planning Act. It also lends support to arguments that the Paris Agreement cannot be ignored in other contexts/decisions where climate change is an important factor. The Court of Appeal's decision was not only based section 10 of the Planning Act: the Paris Agreement was "obviously material"." As such, planning decisions themselves should also explicitly consider the implication of these observations.

10.5 PERFORMANCE GAPS

There is clear and unequivocal evidence that the new buildings constructed under the auspices of the Approved Documents (including BREEAM rated buildings) fail to comply with these minimum requirements.

When we consider the need to reduce and correctly account for carbon emissions it is imperative that buildings perform in a predictable manner.

This 'Performance Gap' has been documented by the [Zero Carbon Hub](#) and many others (inc. [Leeds Beckett University](#).) Estimates suggest the average building has a performance gap of between 40% to 300%.

A growing body of evidence demonstrates these [gaps can be closed](#) when appropriate quality assurance standards and practices are employed. It is notable that many of these successful buildings have been built to the [Passivhaus Standard](#).⁹

Creating a Building Performance Evaluation programme and encouraging the construction of Passivhaus are two robust ways of closing performance gaps and delivering the intended outcome.

10.6 PERFORMANCE GAPS ARE ABOUT MORE THAN HEATING

It should be stressed that energy efficiency is not simply a means of reducing energy demand and minimising fuel poverty. Good energy efficiency standards also seek to minimise the risk of overheating. The need to minimise overheating risks has become all the more apparent with this year's heat wave.

The impact of overheating is fourfold. Firstly it can result in additional, unnecessary deaths. Secondly it can result in the demand for air-conditioning (which is not required in the UK climate providing designs are developed robustly). Thirdly, in households with limited financial means, a new form of fuel poverty could be introduced. In such a situation people cannot keep cool because they cannot afford air-conditioning hardware or fuel to run the equipment. Fourthly any increased adoption of air-conditioning will result in increased carbon emissions which would contribute to global warming and increased incidence of heat waves. Key facts:

- The Environmental Audit Committee of MP's fears 7,000 heat-related UK deaths annually by 2050.
- Design standards like Passivhaus Standard and the AECB Building Standard required indoor temperatures not to exceed 25 °C for more than 10% of the year, and best practice recommends indoor temperatures do not exceed 25 °C for more than 5% of the year.

10.7 PROJECT SPECIFIC SUSTAINABILITY CONSIDERATIONS

⁹ Hyperlink goes to: Johnston D., Siddall M. Ottinner O. Peper S, Feist W (2020) Are the energy savings of the passive house standard reliable? A review of the as-built thermal and space heating performance of passive house dwellings from 1990 to 2018, Journal of Energy Efficiency, Springer.

Beyond the project specific sustainability driven innovations (discussed in section 5) there are other factors that contribute to the project's overall sustainability. These items are discussed below:

Social Context The proposed dwelling will have no significant adverse impact upon the amenities of neighbouring properties or local residents.

Economic Impact In the long term the local and regional economy will benefit from this development. This includes, but not limited to the local school, surrounding retailers, the district council and trades and services. In the short-term trades and services supporting the construction sector will benefit.

The radical energy efficiency standards adopted by this project will serve to mitigate risks associated with fuel poverty in the future.

Environmental Context of the Site Compared to a bungalow, by minimising ground cover, the 2-storey dwelling makes as much of the site as possible available for flora and fauna whilst also allowing for additional bed spaces.

Low Energy Low Carbon Design The applicant aspires to creating a sustainable, low energy, low carbon home that minimises its impact upon the environment. Budget permitting their new home will satisfy the Passivhaus Standard.

If this is not possible then the house will satisfy AECB Silver Standard. In all cases the design achieves the AECB Best Practice Water Standard (refer to Domestic Hot Water for more information).

Space heating demand has been assessed using the Passivhaus Planning Package (PHPP). The graph below (Figure 10.1) shows the current predicted space heating demand for the design is 17.1 kWh/m²/yr and Figure 10.1 shows the design satisfies the 10 W/m² peak load criteria.

On this sound footing it is hoped that further refinement and construction will enable the design to achieve the Passivhaus Standard.

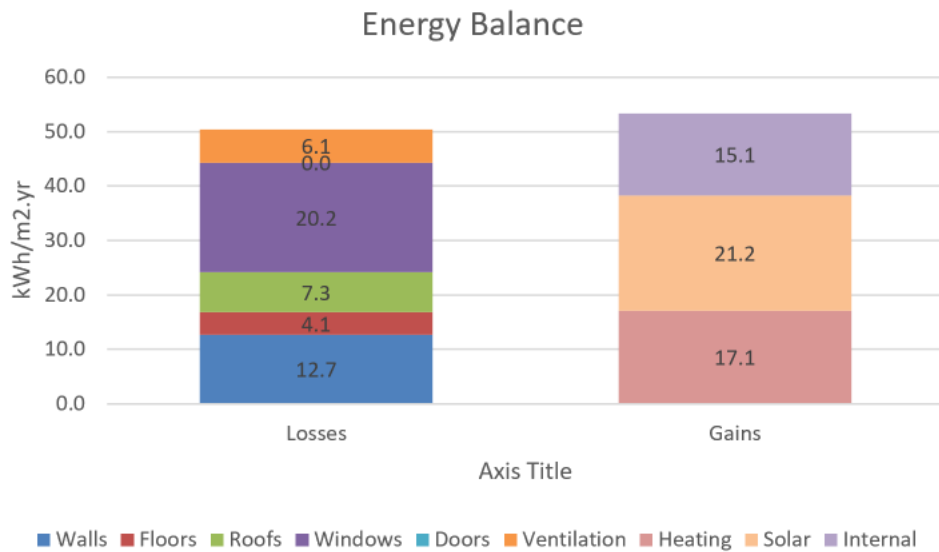


Figure 10.1: PHPP Energy Balance calculation

		Treated floor area m²			Criteria	Alternative criteria	Fulfilled?²
Space heating	Heating demand kWh/(m²a)	166.8		≤	15	-	yes
	Heating load W/m²	17		≤	-	10	
Space cooling	Cooling & dehum. demand kWh/(m²a)	-		≤	-	-	-
	Cooling load W/m²	-		≤	-	-	
		Frequency of overheating (> 25 °C) %	5	≤	10		yes
		Frequency excessively high humidity (> 12 g/kg) %	0	≤	20		yes
Airtightness	Pressurization test result n ₅₀ 1/h	0.3		≤	0.6		yes
Non-renewable Primary Energy (PE)	PE demand kWh/(m²a)	3		≤	120		yes
Primary Energy Renewable (PER)	PER demand kWh/(m²a)	1		≤	-	-	-
	Generation of renewable energy kWh/(m²a)			≥	-	-	

² Empty field: Data missing; -: No requirement

Figure 10.2: PHPP Verification Sheet

Skills Development

Owing to the demanding performance targets set by this project specific training sessions for the trades are planned. The construction of the dwelling, and this associated education process, will foster the regional development of core knowledge amongst building trades about advanced techniques, skills and practices required to achieve sustainable construction.

For further information about the design please refer to the section titled 'Design Principles of the Dwelling.'

11. NATIONAL POLICY AND INNOVATION

Within the context of the client's aspiration for achieving the Passivhaus Standard or AECB Standard it is recognise that there are innovative qualities to the proposal. It is in this context that the NPPFs recognition of innovation is a material consideration.

11.1 PLANNING POLICIES AND DECISIONS SHOULD NOT DISCOURAGE INNOVATION

Paragraph 127 Section C recognises planning policies and decisions should ensure that developments “are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)”

On the basis this design is held to be innovative, and the design is held to be sympathetic, any decision that discourages this development would conflict with the intent of paragraph 127.

Paragraph 131 Similarly the NPPF observes that "In determining applications, great weight should be given to outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings."

Once again any decision that discourages this innovative development would conflict with the intent of paragraph 131.

11.2 OTHER PLANNING POLICY AND INNOVATION

Paragraph 79 THE NPPF recognises that planning policies and decisions should avoid the development of isolated homes in the countryside unless one or more circumstances apply.

Section E requires to design to be of “exceptional quality, in that it:

- is truly outstanding or innovative, reflecting the highest standards in architecture, and would help to raise standards of design more generally in rural areas; and
- would significantly enhance its immediate setting, and be sensitive to the defining characteristics of the local area.”

Paragraph 79 **Interpretation Section E.1:** Here it is critical to recognise the word ‘or’ in the phraseology of “truly outstanding or innovative” i.e. outstanding and innovative are binary alternatives, therefore any given development is not obliged to fulfil both criteria.

11.3 UNDERSTANDING INNOVATION IN ARCHITECTURE

Definition of Innovation

The NPPF 2019 does not define the term ‘innovative.’ Instead this is left for interpretation. Here it is recognised that the Concise Oxford Dictionary provides the following definitions:

Innovate 1. bring in new methods 2. make changes

Therefore, to be innovative one must use new methods and make changes to the norm by creating more-effective methods, processes, services, technologies, products or business models such that they become advanced, original and distinct.

Clarifications

For this project it is understood that, innovative development reflects the highest standards in architecture when it helps to raise standards of design by introducing more-effective methods, processes, technologies and products to rural areas.

Following from this rationale it recognised that design is a process of decision making that leads to a result. Consequently, raising standards in design means applying new decision-making processes that lead to a better result. In the context of creating architecture it recognised that design is a theoretical exercise whilst the construction process is the practical application of given design. By default, this means the construction of architecture that raises standards of design must also raise the standard of construction.

Critical to improving design processes is the identification of failures in the current design and construction process. In this respect function (including building physics), practicality, craft, workmanship and buildability play an essential role in informing appearance.

In this respect innovative design is not about grandiose architectural gestures, rather it is about taking delight in the details, the junctions, the assembly and how it can be used to enhance the quality of daily life – for today and future generations.

Ultimately the tectonic design of this project stems from a deep appreciation of craftsmanship. It is this understanding that informs and infuses the overall architectural intent.

Later sections of this report consider and contextualise an understanding of how this design complements the NPPF.

The Diffusion of Innovation

Given the term ‘innovative’ is not defined in the NPPF and given the NPPF as a whole innovation supports, it is beneficial to create a contextualised understanding of the subject.

In 1962 Professor Everett Rogers, an eminent communication theorist and sociologist, published the seminal book *The Diffusion Of Innovation*¹⁰. The book was frequently updated up until 2003 (Rogers died in 2004).

To understand the importance and impact of the book it should be recognised that *The Diffusion of Innovations* became the second most-cited book in the social sciences.

In studying the diffusion of innovation Rogers observed that adopters of any new innovation or idea can be categorized as innovators until 2.5% adoption is achieved.

¹⁰ Everett M. Rogers, *Diffusion of Innovation* (5th Ed.), New York, NY: Free Press, 2003, pp. xv-xxi

It follows that early adopters sustain ongoing diffusion until there is 13.5% adoption. Based upon the mathematics of a Bell curve diffusion continues through the early majority (34%), the late majority (34%) and finally the laggards (16%).

These categories have provided a common language for innovation researchers for almost 60 years. As such it provides a credible framework for assessing whether or not a development should be considered innovative.

An example of the Bell curve is given in the figure below:

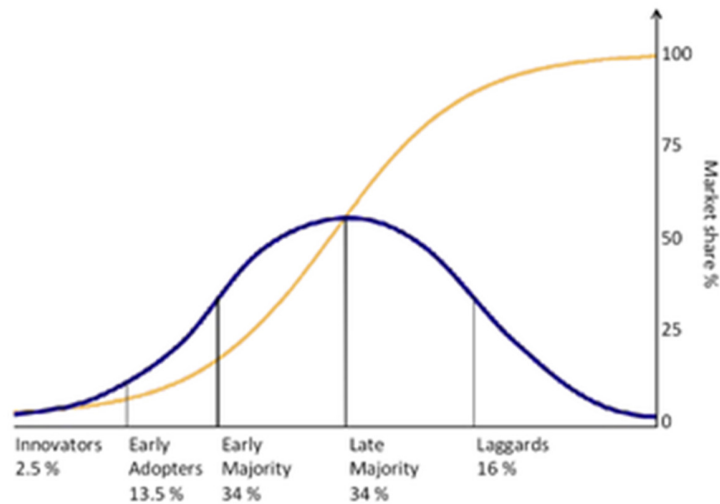


Figure 11.1: Adopter categorisation on the basis of innovativeness (Based upon Fig 7-2 from Everett M. Rogers (1983) DIFFUSION OF INNOVATIONS, Third Edition, The Free Press)

Exploring
Innovation

The next section of this report explores the innovative nature of the Passivhaus Standard. In doing so it considers and contextualises an understanding of the Passivhaus Standard and how it complements the NPPF.

11.4 ARE PASSIVHAUS BUILDINGS INNOVATIVE?

What is the
Passivhaus
Standard?

Established in 1996 the Passivhaus Standard is now 25 years old. It is regarded to be the world's leading quality assurance standard for healthy, sustainable, energy efficient buildings. Broadly speaking the Passivhaus achieves a 90% reduction in space heating compared to the national average home and a 75% reduction in space heating compared to standard practice for new build.

Addressing issues of summer and winter comfort, energy demand, carbon emissions and indoor air quality research shows dwellings constructed using Passivhaus Standards of quality assurance close many performance gaps that blight the majority of new homes. In this respect the quality assurance standard demonstrates a significant improvement upon Building Regulations.

Designers use the Passivhaus Planning Package (PHPP) to optimise the design of building by managing the energy balance because the software allows an assessment of the heat gains and losses from the house.

Passivhaus And Recent Planning Decisions

Regarding the definition of innovation and the process by which it diffuses it is clear that does not mean 'one off.' Yet recently some Local Authority Planning Departments have begun to suggest that they consider the Passivhaus Standard to be 'well established.' This infers Passivhaus buildings may no longer considered 'innovative or truly outstanding' - - though it may still be regarded as 'exceptional.'

Based upon the evidence presented regarding the definition and diffusion of innovation, the grounds for Local Authority Planning Departments concluding the Passivhaus Standard is well established remain, at best, unclear and at worst, unsubstantiated.

In the context of the proposed development, there are two underlying questions:

- 1) Is the Passivhaus Standard Innovative? i.e. Does the Passivhaus Standard create new and more-effective methods, processes, services, technologies, products or business models such they become advanced, original and distinct? and
- 2) Is the Passivhaus Standard established? i.e. Has the Passivhaus Standard moved from the Innovation phase to the Early Adopter phase?

The following sub-sections of this section of the report will explore and answer these questions.

Performance Gap

There is clear and unequivocal evidence that the new buildings constructed under the auspices of the Building Regulations Approved Documents (and the BREEAM rating system) fail to comply with minimum regulated standards.

When we consider the need to reduce and correctly account for carbon emissions it is imperative that buildings perform in a predictable manner.

This 'Performance Gap' has been documented by the [Zero Carbon Hub](#) and many others (inc. [Leeds Beckett University](#).) Estimates suggest the average building has a performance gap of between 40% to 300%.

A growing body of evidence demonstrates buildings designed and constructed to the Passivhaus Standard [close these gaps](#).

Therefore, encouraging the construction of Passivhaus buildings is a robust way of closing performance gaps and delivering intended outcomes i.e. a significant and meaningful reduction in carbon emissions.

As-Built Performance of the Building Fabric

A recent study by Prof David Johnston and Passivhaus Architect Mark Siddall shows the results from the Leeds Beckett University coheating database. It also presents the UK's most comprehensive set of coheating test results for Passivhaus dwellings.

The updated 2016 database, shown graphically below (Figure 2), reveals eight of the dwellings demand over 70% more energy than predicted and two demand over 100% more energy than expected. This indicates significant failings in current design and construction standards. Furthermore, the only dwellings that close the energy performance gap (to within measurement error of the coheating test) are those dwellings designed and built to the Passivhaus Standard.

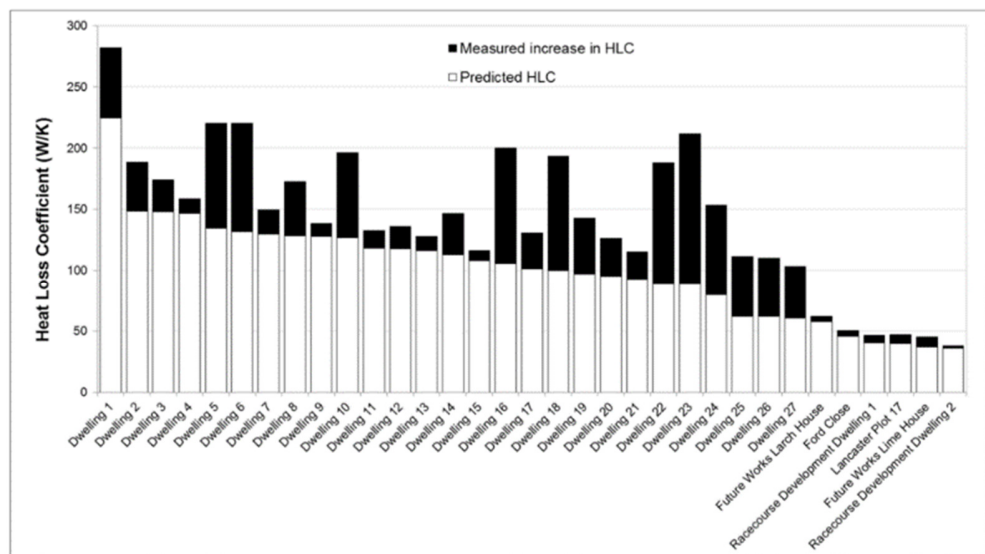


Figure 11.2: Results from the coheating database (Johnston and Siddall, 2016)

As-Occupied Energy Use

A study of 228 Passivhaus homes, as described in the graph below, shows that different households occupy houses in very different ways and as a consequence some consume more energy and others less. The reason for these differences is because some people like their houses to be warmer whilst others prefer the house to be cooler, and some like to open windows whilst others do not. In many respects this should come as no surprise.

What is surprising is that when tolerance is made for the accuracy of the measurements ($\pm 3 \text{ kWh/m}^2/\text{yr}$), and the range of first year deviation resulting from the drying out of construction moisture ($1 \text{ to } 3 \text{ kWh/m}^2/\text{yr}$), the average energy demand is $15.45 \text{ kWh/m}^2/\text{yr}$. In broad terms this is within measurement error of the $15 \text{ kWh/m}^2/\text{yr}$ required by the Passivhaus Standard.

Despite the wide variety of occupant behaviour and preferences that lead to energy use this study demonstrates that, on average, people living in dwellings designed the Passivhaus Standard benefit from reduced energy use (and therefore reduced energy bills) and minimised carbon emissions.

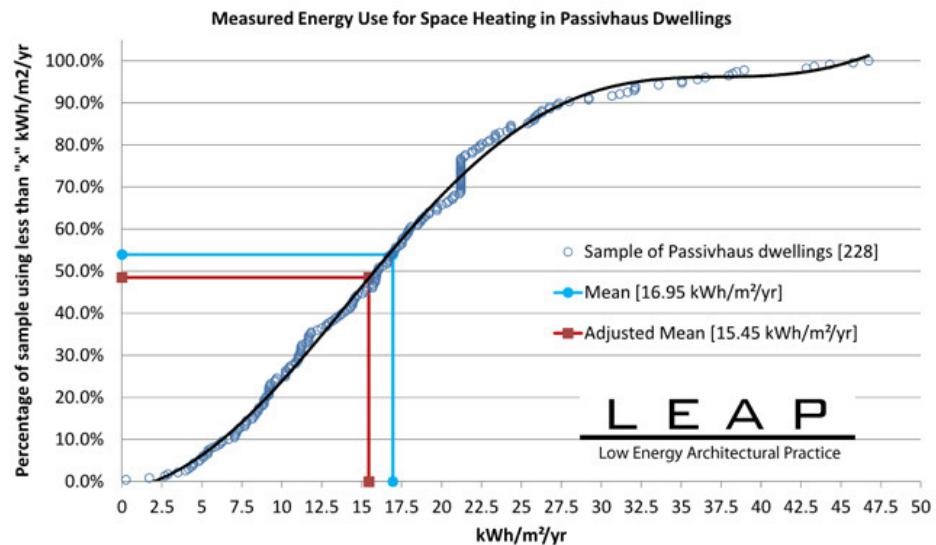


Figure 11.3: Compiled results from the measurement of 228 Passivhaus dwellings.

In effect this also confirms the performance standard reduces space heating demand by up to 90% compared to traditional homes.

As-Built Performance of the Ventilation

A UK meta-study examining the installation of mechanical ventilation with heat recovery (MVHR) systems allows comparison between Passivhaus certified dwellings and regular UK construction practices, see ([Sharpe et al. 2016](#)). Whilst all projects are judged in respect to conformance with Building Regulations Approved Document Part F ([HM Government 2013](#)), rather than requirements of the Passivhaus standard, the benefits of Passivhaus quality assurance become evident and quantifiable. The meta-study presents the measured air flow rates for 52 dwellings with MVHR, 20 of which are Passivhaus Certified dwellings.

Statistical comparison can be drawn from the measurement results for 'Passivhaus Certified' and 'Building Regulations Standard Quality' dwellings (see Figures 3.3a and 3.3b of Sharpe et al. 2016).

In broad terms, the performance of the Passivhaus Certified dwellings strongly contrast with standard UK construction practice. Where 72% of Building Regulations Standard dwellings fail to provide the air flow requirements of AD:F but only 15% of Passivhaus Certified dwellings failed to provide the air flow required by Approved Document Part F (AD:F). In other words 85% of Passivhaus Certified dwellings provide the air flow required by Approved Document Part F (AD:F), but only 28% of Building Regulations Standard dwellings satisfy the air flow requirements of AD:F.

Additionally, unlike the Passivhaus standard, AD:F does not impose a requirement for the MVHR system to provide balanced ventilation. It is worth recognising that a 10% imbalance between the intake and exhaust reduces the efficiency of the heat recovery process by ~16%. Analysis of the data from the MVHR meta-study shows that the average imbalance of AD:F dwellings is 29% and the average imbalance of

Passivhaus dwellings is 17%. Where an imbalance in the MVHR system does occur, it not only impacts on the efficiency of the heat recovery process but also impacts upon air quality and potentially increases condensation risk within the dwelling and its fabric.

In LEAP completed projects third-party commissioning often confirms the imbalance of the MVHR system is <1%.

Passivhaus Innovation

To be innovative the Passivhaus Standard must do something different. The evidence we have looked at shows that the as-built performance of the Fabric Performance, the as-built performance of the ventilation and the as-occupied energy use demonstrates that the Passivhaus Standard does indeed do something different. It closes energy, carbon and air quality performance gaps whilst also reducing space heating energy demand and the associated carbon emissions by up to 90% compared to the average U.K. dwelling.

To be more-effective than other building standards (Building Regulations, BREEAM etc.) the Passivhaus Standard relies upon advanced, original and distinct methods, processes, technologies and products. In this context the Passivhaus Standard, the world's leading quality assurance standard for healthy, comfortable, low energy buildings, can be considered innovative.

Examples of where innovation exists include, but is not limited to:

- **Component Products:** Passivhaus Certified products include building systems, door and glazing systems, mechanical ventilation with heat recovery (MVHR), airtightness systems etc. Because failures in current design criteria and test methods lead to performance gaps, Passivhaus Certified products are required to perform differently and/or tested using innovative processes (such as with Mechanical Ventilation with Heat Recovery.)
- **Processes:** To create buildings that deliver exemplary standards of performance innovative design and construction processes are required. Passivhaus Certified Designers, Consultants and Tradesmen have the knowledge, skills and ability to deliver Passivhaus Buildings.
- **Buildings:** Because Passivhaus Certified Building rely upon an approved system of products, design, construction and certification processes, are another form of distinct and innovative product within the marketplace.

Passivhaus Buildings and the Diffusion of Innovation

Between 2009 and 2019, 1306 Passivhaus Certified dwellings have been built the England. Over this same period, [according to the Ministry of Housing, Communities & Local Government](#), 1,479,100 standard dwellings have been built. Of all new houses built between 2009 and 2018 Passivhaus dwellings account for 0.09% of the housing stock.

In 2019 a total of 139 Passivhaus dwellings were certified whereas, 178,310 standard new homes were constructed. Therefore, in 2019, the number of new Passivhaus dwellings represented 0.08% of all new housing stock.

If we compare the Passivhaus adoption rate 0.08% to Rogers innovation adoption threshold of 2.5%, it becomes apparent that the volume of Passivhaus dwellings being completed each year would have to increase by a factor of 16 before Passivhaus dwellings move from the innovation phase into the early adopter phase.

The international map of Passivhaus buildings shows that there are no Certified Passivhaus buildings within the settlement or surrounding area – see Figure 3 below:

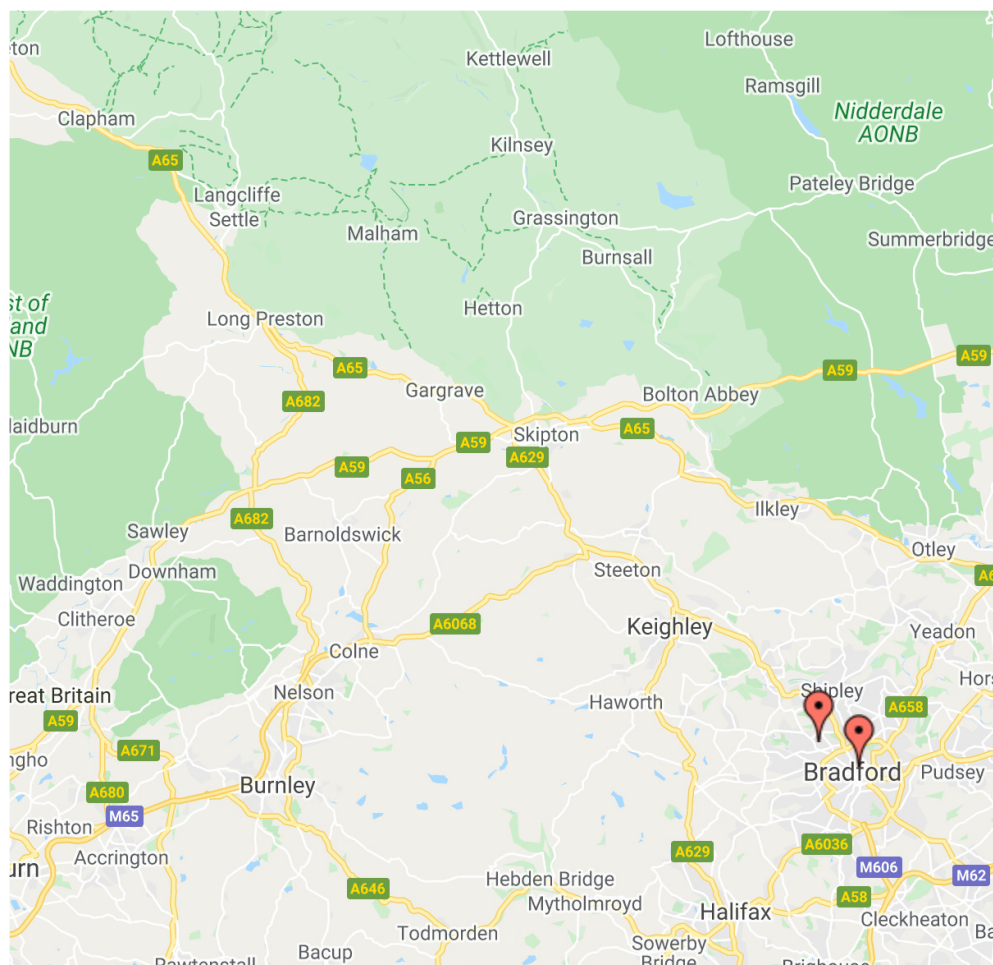


Figure 11.4: Regional Passivhaus Map

Designers and
Consultants and
the Diffusion of
Innovation

Certified Passivhaus Designers and Consultants can be architects, architectural technologists, mechanical and electrical services engineers, structural engineers and energy consultants. As of 2019, for the Great Britain and Northern Ireland, there are 518 Certified Passivhaus Designers/Consultants listed on the [Passivhaus database](#).

By comparison there are 39,987 architects on the ARB [Architects Register](#). Roughly 10,000 architectural technologists are a member of CIAT. There are 21,000 CIBSE engineers. There are 27,000 members of the Institution of Structural Engineers. The total number of professionals totalling 97,987.

In 2019 Passivhaus Designers and Consultants make up less than 0.005% of design professions.

Tradespeople and
the Diffusion of
Innovation

The CIOB estimates there is a working population of 3.1 million tradespeople ([Shortage Occupations In Construction](#)). As of 2019 there are 155 qualified Passivhaus Tradespeople. Passivhaus Certified Tradespeople represent 0.00005% of all tradespeople.

Viability

Not addressing the Climate Emergency incurs a cost. The Stern Report (2006) concluded, climate change could knock between 5% and 20% off global gross domestic product (GDP), but observed the cost could be reduced to 1% if steps are taken immediately to limit emissions.

Recent analysis by the Passivhaus Trust shows that the marginal (additional) cost of building to Passivhaus Standards has fallen from 15% in 2015 to 8% in 2019.

In the report '[UK housing: Fit for the future?](#)' the Committee on Climate Change (CCC) observed it would cost £4800 to build semi-detached houses that achieve a space heating demand of 15 kWh/m².yr by the time late majority adoption has been achieved (15 kWh/m².yr being the Space Heating Demand target of the Passivhaus Standard). This represents a 4% increase in capital cost.

On first impressions the average the impact upon commercial house builders profit, when building at scale to achieve 15 kWh/m².yr, is 8% to the total net-profit i.e. 92% of net-profit remains intact. A 2013 article in the [Investors Chronicle](#) confirmed housebuilders typically average a 21% profit margin. This means when applying the CCC model, housebuilders can be expected to make a profit margin of 19.3%.

Would owners and tenants recognise the value of investing additional capital in property, or rent, if they knew performance gaps were addressed and energy bills for space heating were permanently reduced by 90% compared to the average home? The CCC observe that ultra-efficient homes that use 15 kWh/m².yr would reduce bills by £85-100 per year. Could this increase in perceived value offset capital costs?

The above analysis suggests Passivhaus is a cost effective path to Zero Carbon, as also observed in the report "[Passivhaus: the route to Zero Carbon](#)".

Innovation
Conclusion

As we have seen the NPPF places a great deal of emphasis upon innovation, indeed "great weight should be given to outstanding or innovative designs." Therefore discouraging innovative architecture which is sympathetic to the local character and

history and promotes high levels of sustainability, conflicts with the intent of paragraphs 79, 127, and 131.

This report has also shown that buildings achieving the Passivhaus Standard are innovative because they are effective at closing performance gaps and are more efficient. This means they deliver high standards of health and well-being, comfort, energy savings and carbon emissions reductions.

To deliver innovative performance the Passivhaus Standard introduces a range of new requirements, products and processes (for architectural design and construction) in doing so it changes and advances the construction industry. The achievements of the Passivhaus Standard are important for a number of reasons:

#1 Passivhaus introduces new methods, tools, products, skills and techniques that reflect the highest standards in architecture and raise standards of design and construction in rural areas and beyond

#2 Building to Passivhaus Standards equips the local and regional construction industry with the vital knowledge and skills necessary for delivering actual, rather than theoretical, reductions in carbon emissions and satisfying the Climate Change Act.

#3 Building to Passivhaus Standards addresses issues relating to health, comfort and well-being that other standards (Building Regulations/BREEAM etc.) do not.

#4 Under the terms of trades descriptions (the Consumer Protection from Unfair Trading Regulations 2008), houses are being sold under the pretence that they deliver the energy savings, yet the evidence clearly demonstrates that, unless these houses are built to the Passivhaus Standard, these savings are not realised in practice. In effect houses that are being built to current Building Regulations standards are being mis-sold. Supporting the design and construction of innovative development that closes performance gaps helps the construction industry develop products that are fit for the market.

The evidence presented above demonstrates that buildings achieving the Passivhaus Standard can be considered innovative. Furthermore, when recognising the Diffusion of Innovation model, it is observed that the Passivhaus Standard is firmly rooted in the innovation phase, consequently it is far from 'established.'

Supporting the adoption of the Passivhaus Standard and fostering the development of Passivhaus buildings marks an important and necessary step toward addressing the Climate Emergency and an investment in the wellbeing of future generations.

To ensure this high level of innovation is delivered in practice, and as a means of preventing harm to future generations, we suggest the achievement of the Passivhaus Standard is made a planning condition.

11.5 OTHER AND ASSOCIATED SUSTAINABLE INNOVATIONS

Healthy internal environment

Materials And Finishes: The intention is to build the house using a timber frame structure with cellulose insulation (made from recycled newspaper) and wood-fibre insulation, which is made without harmful additives, avoids toxic formaldehyde-based resins by using timbers natural 'Lignin' as a bonding agent. Wood products will achieve Formaldehyde emission class E1 (EN 717-1) wherever possible.

Where paint finishes are used, low toxicity, low VOC mineral paint finishes will be employed.

Air Quality: No U.K. Building Regulations currently consider the impact of contaminated ductwork on the health and well-being of occupants, yet research shows the greatest cause of contamination occurs during construction. This project has adopted a clean ductwork policy and assessed contamination using Finnish/REHVA Ductwork Cleanliness Standards.

Daylight: By using BS 8206-2 to assess daylight provision, rooms are well lit and oversized windows are avoided. This means a wash of natural light across the surfaces lifts and accents each room, the risk of Seasonal Affective Disorder (SAD) is reduced, summer comfort enhanced, and overheating risk decreased. Furthermore, the need for artificial lighting is significantly diminished.

Noise and Acoustics: Because noise from ventilation systems is unregulated in the UK, the design avoids sleep disturbance (and preserves IAQ) by establishing noise requirements for living areas (< 25 dB(A) and non-habitable rooms (< 32 dB(A)).

Measurements on LEAP completed projects show these values can be delivered in practice.

Decrement Factor: Compared to petrochemicals, cellulose and wood fibre have a higher density and larger specific heat capacity. This dampens the amplitude of summertime daily temperature swings and extends the time lag of solar heat reaching internal surfaces.

Resource Efficiency

Resource efficiency has been improved in three ways:

#1 REDUCE: Unfortunately, the space requirements, desire to avoid raising the ridge line too high above the street, and the cost of attempting to convert/retrofit the existing house, the dwelling cannot be reused.

From the perspective of resource efficiency, the Form Factor of the house has been optimised whilst being an appropriate response to the setting. A good form factor reduces heat loss by reducing the external surface area. There are a number of strategic by-products i) embodied carbon/energy is reduced ii) waste produced during construction is reduced iii) maintenance energy throughout the lifecycle is reduced.

#2 REUSE: A celebration of the best architecture, technical design and modern timber engineering techniques, this project is an exquisite example of how the best of sustainable, low energy, low carbon design can be sensitively brought to traditional towns.

But it is not enough that all timber products will be traceable through the FSC and PEFC certification schemes.

By recovering and transforming timber waste into a strategic by-product, resource efficiency is improved and GHG emissions are reduced because the material is not burned or left to biodegrade. Based upon previous projects it is estimated that this project will use roughly 10 to 12 tonnes of recycled cellulose and wood fibre insulation.

The wood fibre insulation is made from timber sourced from forest thinnings or as sawmill by-product. Furthermore, no harmful additives are used during the production of these insulation products and they use timber natural 'Lignin' as a bonding agent, rather than artificially introduced resins.

Furthermore, the prefabrication of timber frame panels in factory conditions means timber waste can easily be recovered with the potential for reuse/recycling.

#3 RECYCLE: By minimising timber treatment, using prefabricated panels and components, 21,000 screws and wood-fibre insulation, the house could be disassembled, relocated/reused or recycled at the end of its life.

The intention is to dismantle the existing dwelling in such a manner that the component parts can be reused elsewhere.

Whole-Life Carbon

Whole-life carbon is to be reduced in six ways:

#1: By reducing carbon emissions/ecological damage during material acquisition phase: Almost every fibre of the house has its origins in sustainably sourced PEFC and FSC timber.

#2: By avoiding or minimising materials that require carbon intensive processing: The extensive use of timber and slate will avoid products with intense energy use and carbon emissions. Material processing is minimised by making extensive use of timber products. The raft foundation will be carefully engineered to minimise the use of concrete.

#3: By locking in carbon: Where development must occur, it is preferable to use materials/products that store carbon. (Timber products this case.)

#4: By reducing energy demand during use: As a Certified Passivhaus, space heating demand has been reduced, domestic hot water demand has been optimised and

electricity demand has been decreased by installing energy efficient appliances and LED lighting.

#5: By Accounting for Embodied Carbon

Water Efficiency: The design adopted the AECB Water Efficiency Standard which means comfort is enhanced whilst water use, energy demand and the associated carbon emissions are minimised.

This has been achieved through the use of low flow fittings, a compact services plan, microbore plumbing (which minimises the volume of dead legs to < 1.5 litres) and a super-insulated storage cylinder. Furthermore hot water is delivered in less than 10 seconds.

Building Performance Evaluation: An on-going 12-month building performance evaluation programme will be undertaken. Once analysed and complete lessons learned about technologies, energy use and comfort analysis will be shared.

Longevity and Durability **Adaptability For All Ages:** The lifespan of the house is extended by providing an accessible ground floor, incorporating adequate space provision, providing adaptive opportunities and considering sensory and mobility challenges, families and grandparents have space for prams, walking frames, wheelchairs and handrails as well as good lighting and good acoustics.

High Performance Windows and Doors: To prevent frame rot, and extend the product lifecycle, moisture control is also important for windows and doors. That's why the timber frame of the high-performance triple glazing is integrated into the insulation plane - raising the surface temperature above 13C and preventing condensation even if the external temperature drops to -3C.

Moisture: Unrecognised by Building Regulations but understood by building physics research, if moisture damage is to be avoided preserving well-insulated timber structures means air leakage should be <0.5 m³/hr/m²@50Pa. For this project, with U-values <0.15 W/m²K, excellent airtightness is essential. The Air Permeability target is 0.3 m³/hr/m²@50Pa – over 30 times better than industry backstops.

Humidity Management: Superior air quality is achieved by supplying fresh air and maintaining a suitable relative humidity (RH) by using MVHR. By maintaining the RH between 40% and 60% and reducing humidity peaks in kitchens and wet rooms from ~95% to ~55% in about 2 hours the MVHR not just good for people but also helps the structure remain dry and free from moisture damage. The MVHR also reduces ventilation heat losses by 92% and whole house heat losses by 50%

Thermal Performance **Convective Thermal Bypass:** In the UK closed loop convective thermal bypass is largely unregulated (it is limited to party walls) yet it can result in a significant increase in heat loss; research suggests a 140% to 300% increase. This is a significant

contributor to the performance gap discussed earlier. In this project the insulation is encapsulated by the wind and air barrier.

Open Loop Thermal Bypass: Poor windtightness can result in a significant increase in heat loss; in-situ measurements have found an increase in heat loss of up to 660%. Windtightness is unregulated in the UK, so this project has adopted Norwegian windtightness standards (windtightness $<1\text{m}^3/\text{m}^2@50\text{pa}$).

Thermal Bridging: Vigilant design and attention to building physics is expected to reduce thermal bridging by 90% compared to default Building Regulations assumptions (Y-value down from $0.15\text{ W/m}^2\text{K}$ to $0.015\text{ W/m}^2\text{K}$.) This means 1) less energy is lost from the house 2) condensations risks are reduced 3) the specification of unnecessary insulation has been avoided (which means the embodied carbon is significantly reduced).

Air-Tightness: Based upon prior experience, and by careful design and craftsmanship, the Air Permeability target is $0.3\text{ m}^3/\text{hr/m}^2@50\text{Pa}$. Gather all leaks together and the Equivalent Leakage Area (ELA) is 196mm^2 . This is half the air leakage permitted by the Passivhaus Standard.

12. LOCAL DEVELOPMENT PLAN

The starting point for any planning decision is the development plan. Decisions should be made in accordance with the development plan unless material considerations indicate otherwise.

Any harm caused by development would need to be outweighed by other considerations which amounted to the very special circumstances.

The Craven Local Plan 2012 to 2032 has been consulted and the following relevant policies have been identified.

Policy SP1:
Meeting housing
need

Craven Local Plan Strategic Housing Market Assessment (SHMA) (November 2017 Update) recognises have a right to a plot of land from their local council to build their home.

Policy SP3:
Housing mix and
density

The relevant section of SP3 includes recognitions that the local planning authority “will be flexible in its requirements for housing mix and density where this is necessary to ensure scheme viability, to take account of local variations in housing need, to better promote balanced mixed communities or to achieve other local plan objectives.”

Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.

Policy SP4: Spatial Strategy and Housing Growth	<p>The development of this non-allocated site within the Skipton boundary. Pertinent aspects of Policy SP4 include:</p> <ul style="list-style-type: none"> i) consistent with the role and function of the settlement in the spatial strategy ii) proportionate to the size of the settlement iii) complementary to the settlement's form, character and appearance iv) conserves the character and appearance of the countryside v) avoids contributing towards the coalescence of settlements; and vi) accords with all other relevant local plan policies or neighbourhood plan policies. <p>Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.</p>
Policy SP5: Strategy for Skipton - Tier 1	<p>The site is adjacent to areas of housing allocation within the Tier 1 area.</p>
POLICY ENV3: Good Design	<p>The policy seeks to ensure that growth in Craven results in positive change. The replacement dwelling does not constitute 'growth', however, it benefits the local economy, environment and quality of life, including health and wellbeing.</p> <p>Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.</p>
POLICY ENV4: BIODIVERSITY	<p>The policy seeks to prevent adverse effects on any international designated site's integrity, either alone or in combination with other plans and projects, which is to be demonstrated through Appropriate Assessment.</p> <p>Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.</p>
POLICY INF4: Parking Provision	<p>New developments will help to minimise congestion, encourage sustainable transport modes and reduce conflict between road users by ensuring proper provision and management of parking for cars and other vehicles.</p> <p>Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.</p>
Policy INF5: Broadband	<p>The policy seeks to ensure houses are equipped with broadband connectivity at a transfer rate greater than 30Mbps.</p> <p>Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.</p>

**POLICY INF7:
Sustainable
Transport And
Highways**

The minimisation of greenhouse gases and congestion, and the provision of safe and accessible travel facilities will be supported by maximising the opportunities for travel by sustainable transport modes; avoiding severe residual cumulative impacts of development relating to transport; and the design of safe and convenient access to transport facilities.

Refer to Section 14. Appraisal and Planning Balance for information about how the proposed dwelling addresses this policy.

13. CONSERVATION AREA STATUS

13.1 LOCAL PLAN: CONSERVATION AND CONSERVATION AREA DESIGNATION

Section 69 of the Planning (Listed Building and Conservation Areas) Act 1990 defines conservation areas as 'areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.'

The site lies outside Skipton's Conservation area.



Figure 13.1: Plan showing Conservation Area

13.2 OTHER DESIGNATIONS

The site of the proposed dwelling does not fall within a designated rural area, a National Park or an Area of Outstanding Natural Beauty.

14. APPRAISAL AND PLANNING BALANCE

14.1 THE PROPOSED DWELLING AND ITS CONTEXT

Area and Footprint

The Gross Internal Area (GIA) of the house is approx. 173 m².

Existing External Footprint: 93 sqm

Proposed External Footprint: 108sqm

Housing mix and density

The Strategic Housing Market Assessment (SHMA) Update 2017 notes the results of 2011 Census data from 24,583 homes across Craven, whereby 36.3% have one or two bedrooms (7.7% of dwellings have one bedroom, 28.6% have two bedrooms), 42.0% have three bedrooms and 21.6% have four or more bedrooms (page 96, section 8.8)

The SHMA Update 2017 suggested an overall mix of market and affordable dwellings (page 89, Table 7.3) is 18.9% one and two bedrooms, 57.3% three bedrooms and 23.8% four or more bedrooms.

The SHMA Update 2017 therefore requires a shift in dwelling mix whereby -17.4% have one or two bedrooms, +15.3% have three bedrooms and +2.2% have four or more bedrooms.

Though the replacement of a 2-bedroom house dwelling does not increase the density of homes within the area, the addition of a 4- bedroom house represents positive change in the diversity of housing mix within the local area and falls within the broad emphasis of Policy SP3.

Spatial Strategy and Housing Growth

The development of this non-allocated site within the Skipton boundary, as such the proposal is:

- i) consistent with the role and function of the settlement in the spatial strategy
- ii) proportionate to the size of the settlement

Furthermore, for the location in question, the house is:

- iii) complementary to the settlement's form, character and appearance

And by avoiding development elsewhere:

- iv) conserves the character and appearance of the countryside
- v) avoids contributing towards the coalescence of settlements; and
- vi) accords with all other relevant local plan policies or neighbourhood plan policies.

Sustainable Transport And Highways

The dwelling is within safe, suitable and convenient walking distance of the town centre and the house includes a secure cycle store. Walking and cycling will reduce the number of car short car journeys. Bus stops are also accessible by foot, therefore the new dwelling will increase demand for local bus services, which helps to support the economic sustainability and provision of this service.

Furthermore, to minimise transport emissions and foster the development of low carbon transport, the client intends to replace their existing vehicles with ultra-low emissions electric vehicles. For this reason, the house will be equipped with an electric vehicle charging point.

Vehicular Access and Parking

Two parking spaces have been allowed for within the design.

Traffic Generation

As a replacement dwelling the new house will not incur additional traffic generation.

Access and highways safety

Dropped kerbs will be required to allow vehicular accesses. No further changes are be made to the highway.

Waste Management and Recycling Provision

The proposed dwelling will make general use of the existing infrastructure.

A bin store is provided adjacent to the highway.

Drainage

The proposed dwelling will make use of the existing infrastructure.

Foul Drainage Disposal

The proposed dwelling will make use of the existing infrastructure.

Biodiversity

The bat survey suggests no bat inhabit the existing dwelling site.

Hard and Soft Landscaping

The existing garden of the site has been host to evergreen trees and shrubs. Where appropriate the intention is to introduce native trees as replacement. Vegetation, such as flowers and shrubs, will be used at the front of the dwelling to soften its appearance on the street.

Hard landscaping will be minimised. The parking area will be formed from a water permeable surface that will allow rainwater to soakaway freely.

Means of enclosure

To facilitate improved pedestrian access, a new retaining wall is to be formed between No. 9 and 11. The replacement wall will be clad in timber.

The boundary between No. 7 and 9 is to be made good as appropriate. No significant changes to materials and finishes are intended.

Other boundary fences are to be retained and made good.

Pedestrian Access and Adaptability	<p>Challenges associated with the existing property are outlined in Section 1.2 The Application Site.</p> <p>The lifespan of the house is extended by, considering Lifetime Homes standards. This means providing an accessible ground floor, incorporating adequate space provision, creating adaptive opportunities and considering sensory and mobility challenges so that families and grandparents have sufficient space for prams, walking frames, wheelchairs and handrails as well as good lighting and good acoustics.</p> <p>A significant example of the measures undertaken includes reducing the finished floor level from 159.15m to 157.44m enables the dwelling to be access from with street via a shallow ramp, rather than a flight of steps.</p>
Education Demand	By increasing the number of bed spaces replacement dwelling will reinforce demand for existing schools.
Broadband	The house will be equipped with broadband connectivity with a transfer rate greater than 30Mbps.
Smells	As a replacement dwelling there will be no change in current conditions.
Noise	As a replacement dwelling there will be no change in current conditions.
Archaeology	The site is not known to be of archaeological importance.
Contamination	As the site of a former dwelling contamination is not known to be a concern.
Design Siting	The front of the proposed dwelling aligns with that of the existing, thereby maintaining the street line.
Legibility of streetscape	Out of respect for neighbouring properties the house acknowledges the development line of the street. As such the proposed dwelling does not alter the legibility of the streetscape.
Views and Vistas	The site's position and elevation mean that it is well positioned to take advantage of views and vistas across the valley toward Draughton. To provide this amenity, which lies to the south east of the site, the window and door positions have been positioned to make the most of this focal point.
Sustainable Design and Construction	The Building Regulations are the lowest common denominator and, as shown in Section 11, do not represent an aspirational target. That is why, as also noted in Section 11, the proposed development takes into account all reasonable opportunities to reduce energy use, water use and carbon emissions and to minimise waste, ensure future resilience to a changing climate. It will do so by using high performance standards, low energy design, technologies and construction methods.

Though not included within this proposal, in time and finance permitting, the client aspires toward generating power through solar or other means.

Overshadowing,
Overlooking and
Privacy

ADJACENT PLOTS

11 Tarn Moor Crescent (right):

Existing:

- 1) The distance between dwellings is 2.85m
- 2) No. 11 has two small upper floor windows on the south facing gable. The windows currently look onto the gable wall of the existing bungalow.

Proposed:

- 3) The distance between dwellings has been increased from 2.85m to 3.45m i.e. the gable of the proposed dwelling has been moved 575mm away from the existing boundary wall.
- 4) The proposed gable wall of 9 Tarn Moor Crescent is higher, though the reduction in daylight has been limited by the increased distance between gables.
- 5) Windows of the proposed dwelling at 9 Tarn Moor Crescent will be obscured.



Figure 14.1: Existing views from 9 Tarn Moor Crescent toward 11 Tarn Moor Crescent

7 Tarn Moor Crescent (left)

At first floor level the proposal has living room and dining room areas featuring side facing openings that face toward 7 Tarn Moor Crescent. In this regard there are some important factors that warrant consideration:

Existing: 7 Tarn Moor Crescent (left)

- 1) The dwelling currently has an obscured side/back door and an obscured window serving a non-habitable area (i.e. WC) that faces an existing south facing retaining wall and the south gable of 9 Tarn Moor Crescent.

Proposed: 7 Tarn Moor Crescent (left)

- 2) According to Application Number: 2019/20788/HH, permission has been granted to remove the existing door/window in order to extend the dwelling.

Historic/Existing: 9 Tarn Moor Crescent (left)

- 3) The distance between the existing gable of 7 Tarn Moor Crescent is 6.15m.
- 4) The distance from 7 Tarn Moor Crescent to the historic car port is 3.5m.
- 5) The existing ground floor level of the bungalow is 159.15m.
- 6) The level of the top side of the historic car port 160.0m
- 7) Existing windows and doors in the south façade are transparent (not obscured.)
- 8) There are currently 4 structural openings on the southern façade comprising of windows and doors. The existing area of the openings is 5.1m².
- 9) To the south of the dwelling, at a level of roughly 159.0m there is an existing patio, which serves as amenity area, also provides access to the rear garden.
- 10) The existing openings of 9 Tarn Moor Crescent look upon the first-floor blank gable of 7 Tarn Moor Crescent.

Proposed: 9 Tarn Moor Crescent

- 11) The distance between the existing gable of 7 Tarn Moor Crescent has been increased from 6.15m to 7.30m i.e. the gable of the proposed dwelling has been moved 1.15m away from the existing dwelling.
- 12) The distance from 7 Tarn Moor Crescent to the proposed single-storey workshop/garden store/bike store the distance is 4.0m i.e. the new structure is 0.5m further away from the boundary than the former carport.
- 13) The proposed ground floor level of the dwelling has been reduced to 157.44m (1.71m below existing floor level). The level of the proposed first floor is 160.3m (1.15m above existing floor level).
- 14) The level of the top side of the proposed Deck level is 160.15m.
- 15) The proposed windows and doors in the south façade are transparent (not obscured.)
- 16) Three structural openings are proposed with an area of 7.9m².
- 17) To the south of the dwelling, at a level of roughly 160.3m the deck, which serves as an amenity area, also provides access to the rear garden.

- 18) The proposed openings of 9 Tarn Moor Crescent look upon the proposed blank gable of 7 Tarn Moor Crescent.

Observations

- 1) The proposed house aligns with the building line of the street.
- 2) Unlike the historic car port which protruded beyond the building line by 2.15m, the proposed deck is set back 500mm behind the face of the proposed façade. This not only respects and reinforces the separation between detached dwellings but also serves to avoid theoretical concerns about No. 9 overlooking No. 7.
- 3) The level of the proposed deck level is 0.15m above the level of the historic car park (refer to Figure 14.3).
- 4) The first-floor window head is ~1.2m above the level of the existing window head.
- 5) The proposed openings of 9 Tarn Moor Crescent are in a similar position to those of the existing bungalow, albeit they have been moved first floor level.
- 6) In light of the level change, the existing window serving a non-habitable room, and the proposed extension at 7 Tarn Moor Crescent.
- 7) The existing garden of No.9 already overlooks 7 Tarn Moor Crescent (refer to 14.4).

Conclusion:

The proposed deck and openings at 9 Tarn Moor Crescent have no adverse impact upon visual amenity or privacy of the existing or proposed 7 Tarn Moor Crescent.





Figure 14.2: Existing views from 9 Tarn Moor Crescent toward 7 Tarn Moor Crescent



Figure 14.3: Views over car port from 9 Tarn Moor Crescent toward 7 Tarn Moor Crescent





Figure 14.4: Existing garden views of 7 Tarn Moor Crescent

Overshadowing,
Overlooking and
Privacy

OPPOSITE PLOTS:

The privacy distance across the road has not been change as the front façade aligns with the former position. The distance between primary facades is 25.4m.

To address the topography and to prevent the proposed dwelling from becoming overbearing the level of the ground floor level has been reduced by 1.71m i.e. from 159.15m to 157.44m.

To demonstrate the impact of the proposed dwelling upon the properties on the opposite side of the road the winter sun angle has been plotted (Figure 14.1) and used to inform and assessment of solar access for their western façade. Analysis of the sun path¹¹ shows:

- Figures 1.2 and 14.4 (Evergreen) shows the overshadowing caused the evergreen trees present upon the plot when it was purchased. Trees in this position means the western sun was obscured between 26th October and 21st February.
- Figure 14.4 (Bungalow) shows the overshadowing caused by the existing bungalow. The ridge in this position means the western sun was obscured between 1st December and 17th January.
- Finally Figure 14.4 (Proposed) shows the overshadowing caused the proposed dwelling. The ridge in this position means the western sun was obscured between 10th November and 5th February.

In light of the facts presented above the risk of overshadowing which could be caused by the increased ridge height is considered to have no adverse impact upon visual amenity or privacy.

¹¹ The position of the sun path was checked using <http://andrewmarsh.com/apps/releases/sunpath2d.html>

For more information refer to Section 1.3 Contextual Analysis.

Daylight Provision To avoid unnecessary carbon emissions arising from electrical lighting, and to reduce the risk of overheating (which can arise from over-glazing) daylight standards and appropriate calculations have informed the design.

The provision of glazing has been determined on a room-by-room basis. The table below shows the daylight provision within the proposed dwelling is adequate in all habitable rooms.

If east and west facing glazing is to be carefully controlled so as to present well mannered elevation to the street whilst also avoiding overheating, the analysis demonstrates that the south facing glazing is critical if adequate levels of daylight are to be achieved.

Level (Storey)	Room Name	Room Depth / Daylight Uniformity	Daylit Area Within No-Sky Line		Target Ave. Daylight Factor	Design Ave. Daylight Factor		Daylight Suitability Summary
			%	Pass/Fail		%	Pass/Fail	
Ground	Bedroom 1	PASS	>80%	PASS	1.0	1.2	Pass	Pass
Ground	Bedroom 2	PASS	>80%	PASS	1.0	0.9	Borderline	Borderline
Ground	Bedroom 3	PASS	>80%	PASS	1.0	0.6	Fail	Fail
1st	Living	PASS	>80%	PASS	1.5	1.6	Pass	Pass
1st	Kitchen/Dining	PASS	>80%	PASS	1.5	1.4	Borderline	Borderline

Design Factors As noted in Section 1.2 The Application Site the existing dwelling detracts from the street. The proposed dwelling improves the aspect of the street that benefit the broader local environment.

Section 1.3 CONTEXTUAL ANALYSIS demonstrates that the existing Character Area is somewhat non-descript and lacks local architectural distinctiveness.

The proposed dwelling maintains those good aspects of the local environment, such as the street-line, improves those that are deficient (the significant level change between the street and the front door) and enhances the architectural character.

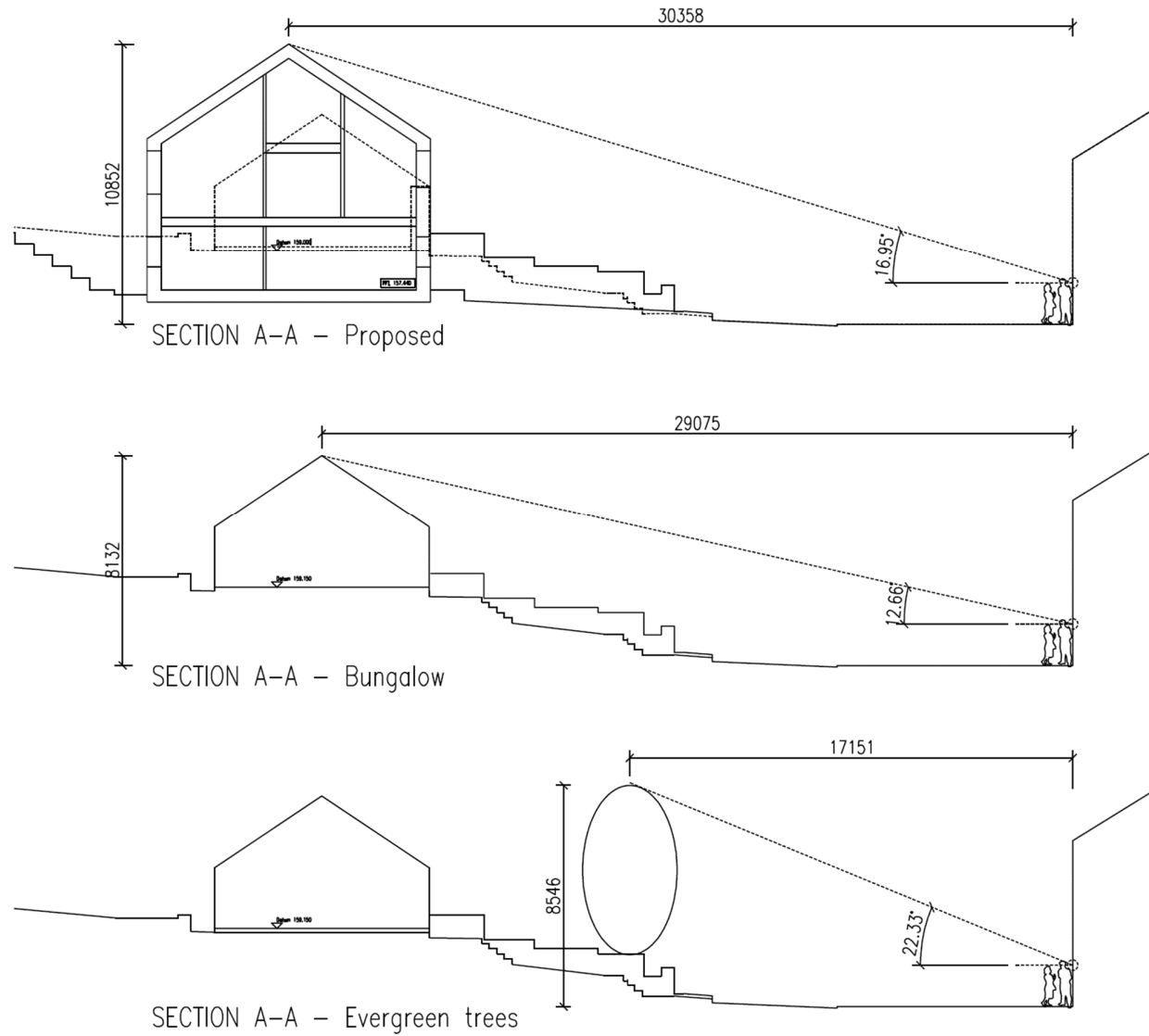


Figure 14.4: Sections showing shading to the street.

Scale, Form and Massing

The house comprises a simple pitched roof on a two-storey dwelling. As such the scale, form and massing of the proposed dwelling is broadly comparable with surrounding dwellings.

It is recognised that one of the most noticeable features in an estate or street comprised of detached or semi-detached properties is the space between buildings. These gaps give a sense of openness that is not apparent in areas of terrace housing.

The construction of two storey extensions or additions close to or up to boundaries could remove this space and create a terraced effect which would lead to a loss of uniformity and character to the street scene.

Context:

With regard to 11 Tarn Moor Crescent, Figure 1.2a (dated 07 October 2019) shows the roof of the car port aligning with the face of a retaining wall that projects 2.4 meters beyond the front façade of the bungalow, thus encroaching upon the street.

On 13th September 2019 planning permission was granted for an extension to 7 Tarn Moor Crescent (Application Number: 2019/20788/HH). The proposed 1.5 storey extension aligns with the front and rear façade of that dwelling. The proposed extension presents a blank gable to the proposed dwelling at 11 Tarn Moor Crescent.

Proposal:

While the garden/bike/bin store are to be built close to the boundary, this will not have the effect of removing the sense of openness between the detached properties. This is because:

- 1) The sloping nature of the site, and the difference in levels between the properties will enable the retention of the effect of visual separation between the application property and the neighbouring property to the south. In fact the proposed two-storey dwelling means the spatial separation between 7 and 11 Tarn Moor Crescent will be emphasised. Furthermore,
- 2) By comparison to the car port, and to improve the streetscape, the structure over the garden/bike/bin store and is set back 500mm behind the line of the front façade of the proposed dwelling.
- 3) Like the garden/bike/bin store the side of the proposed dwelling the front porch will be visible from public viewpoints.

In summary, both these proposed elements (the garden/bike/bin store and the porch) have been designed to sit well with the proposed property, and are not an incongruous addition, given the many variations of individual property designs in the immediate area.

High Quality Materials

The dwelling is a modest 2 storey four-bedroom dwelling. The dwelling will be detached, featuring a contemporary yet contextual design. The materials proposed for use on the facade would not match the appearance of more traditional dwellings near to the site but would not have an adverse impact on character with the mixed design of dwellings along Tarn Moor Crescent. The materials and colour of proposed for the roof compliment that of surrounding properties.

In keeping with the overall sustainability objectives, where reasonable, material and product will be locally sourced.

Other Matters

None.

In conclusion, the proposal is considered to be of a scale and quality of design comparable and proportionate to the existing dwelling. For the reasons mentioned above it is considered that the development would not have an unacceptable or detrimental impact upon the character and appearance of the area. Therefore, the proposal does not conflict with the guidance in the NPPF and ENV3.

15. CONCLUSION

The analysis in this report demonstrates that the policy relating to the proposed dwelling should be interpreted objectively in accordance with the language used and read in its proper context.

In addition, when considering the proposal the Development Plan must be read as a whole, with a focus on its relevant objectives and the policies which give effect to those objectives.

When deciding upon the proposal the Planning Authority is required to consider more than conflict with any single policy before determining whether an application is out of accord with the Development Plan as a whole.

The Courts have held that the Government's statements of planning policy are material considerations which must be taken into account, where relevant, in decisions on planning applications. Such statements cannot make irrelevant any matter which is a material consideration in a particular case. But where such statements indicate the weight that should be given to relevant considerations, decision-makers must have proper regard to them.

With consideration in mind, as a self-build development, the project should not be subject to an Affordable Housing Contribution.

Finally, this report shows that the proposal, as a whole, is not out of accord with the National Planning Policy Framework and the Development Plan.

Suggested Planning Conditions

The development is to achieve a the AECB Building Standard or Passivhaus Standard at Final Certificate stage.

About the Author:



Mark Siddall, from the Lovingly Engineered Architectural Practice (otherwise known as LEAP, www.leap4.it), is an architect, author and educator with an international reputation. He is a co-chair of the RIBA North East Sustainable Futures Forum and a trustee of the Association for Environment Conscious Building.

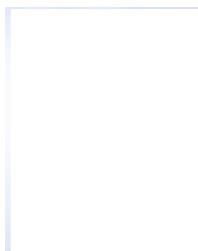
By raising standards of sustainable urban design, enhancing the immediate setting of a site, being sensitive to the defining characteristics of the local area and reflecting high standards in architecture, his practice creates low energy/low carbon homes and communities on complex rural sites and in conservation areas.

Most clients want homes designed, built or refurbished to the Passivhaus Standard or the AECB Building Standard. In 2015 Steel Farm, a house designed by Mark, became the first privately owned Certified Passivhaus in the North East of England. The house, which went on to win the small projects category at the UK Passivhaus Awards, is featured in an online documentary. You can watch the documentary at www.PassivhausSecrets.co.uk



"Mark ...is one of the pioneers to introduce Passivhaus to the UK. His experience and ongoing research into building performance makes him one of the UK's most skilled and knowledgeable Passivhaus Architects.I have no doubt that Mark Siddall's buildings also offer an economical attractive solution to the investors."

- Dr Wolfgang Feist, Passivhaus Institute (creator of the Passivhaus Standard)



*"It was clear when I met Mark for the first time that he has a true passion for his work..
...It has been a joy to work with someone so committed and knowledgeable."*

- Dr David Johnston, Leeds Beckett University



"Mark's technical knowledge of low carbon design and building performance is breathtaking and importantly for me he also has an eye in what it would take from a construction perspective."

- Allan Thompson, Managing Director, Gentoo Group