Proposed New Country House
at
Musley Bank
Malton
for
Mr and Mrs I. Brisby

Design and Access / Planning Statement (including Heritage considerations).

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1: Background

1.1 The applicants, Mr and Mrs Ian Brisby, together with their immediate family, have lived at Musley Bank House for 34 years, during which time they have demonstrated a long-term commitment to maintaining and enhancing the existing property and its extensively landscaped grounds.

1.2 Evidence of such commitment can be seen from the photographs provided, showing the nature and extent of the landscaped parkland setting in which the property sits and the quality of the buildings on the site.

North to Parkland Gardens to Musley Bank House

South to Parkland Gardens to Musley Bank House

1.3 Since purchasing the property, in 1983, the applicants have painstakingly restored it to its original Victorian appearance, utilizing authentic materials wherever possible. In 1992, a new conservatory was added to the main dwelling and an adjoining farm building renovated, and in 2000 a lake was constructed in conjunction with an extensive programme of tree and shrub planting that has continued up to the present day.

Musley Bank House

1.4 Mr and Mrs Brisby have both spent their lives working locally in the agricultural and food industries, during which time they have made significant contributions to the social, economic, and environmental quality of the area.

1.5 They are now seeking to erect an energy efficient eco-friendly dwelling for their retirement in a location where they have created a unique and highly regarded landscaped setting, which they have come to love, and where they feel "at home" in their local community.

1.6 The proposed dwelling is being promoted as an "exception" to normal planning policies under the terms of Paragraph 55 of The National Planning Policy Framework (NPPF) which sets out a number of tests that must be satisfied if planning permission is to be forthcoming for such forms of development.

1.7 In this case the applicants are seeking to obtain the grant of planning permission in this open countryside location based on the guidance in paragraph 55 of the NPPF. Whilst Government policy states that housing applications should be considered in the context of the presumption in favour of sustainable development - which suggests a more cautious

approach in rural areas - paragraph 55 of the NPPF allows for residential development in the open countryside in special circumstances. The relevant parts of paragraph 55 to this case state that: -

1.8 "To promote sustainable development in rural areas, housing should be located where it will enhance or maintain the vitality of rural communities. For example, where there are groups of smaller settlements, development in one village may support services in a village nearby. Local Planning Authorities should avoid new isolated homes in the countryside unless there are special circumstances such as ... the exceptional quality or innovative nature of the design of the dwelling.

Such a design should:

- be truly outstanding or innovative, helping raise standards of design more generally in rural areas
- reflect the highest standards in architecture
- significantly enhance its immediate setting, and
- be sensitive to the defining characteristics of the local area."

1.9 The proposed dwelling has been carefully sited and designed in a manner that seeks to achieve compliance with these criteria in order to provide a technologically innovative house of exceptional quality in the rural area. The approach adopted is considered below in some detail.

1.10 A number of dwellings have been permitted nationally in the open countryside, as exceptions to Local Plan policies under 'paragraph 55' of the NPPF. These properties have been approved both by LPAs and Inspectors at appeal. This process has been helpful in clarifying a number of early concerns, including what constitutes an 'isolated home in the countryside' in terms of paragraph 55. The term 'isolated home' has been determined **not** to mean being isolated from neighbouring properties and settlements, and indeed it has been determined that positioning such dwellings close to an existing settlement helps to support village services.

1.11 Locally, planning permission was granted by Scarborough Borough Council in February 2017 under reference 16/02173/FL for the erection of a "Paragraph 55" dwelling at Turnerdale Hall, The Carrs, Ruswarp, YO21 1RL. To date, however, Ryedale District Council has not granted planning permission for an "exemplar house" under paragraph 55.

1.12 Inspiration for the current scheme has been obtained from the ashlar stonework of the award-winning home, Sycamore House, at "The Cave", Middlecave Road, Malton and the more recent approval of a new build adjacent to Derwent House on Old Malton Road. The plain frieze running around the tops of the walls helps to project a contemporary interpretation of the country house form, as seen in the front elevation and glazing of nearby Howsham Hall.

1.13 As would be expected, the criteria of Paragraph 55 set a high bar, as any proposal that falls to be considered under it needs to meet all four criteria to be successful in complying with it as an exception to the normal policy of restraint on development in the local countryside.

1.14 In assessing this application, which seeks to comply with Paragraph 55, it is, perhaps, important to establish what 'exceptional' means: The Oxford English Dictionary definition of 'exceptional' is "unusual; not typical; unusually good; outstanding". In this regard it is probably helpful for decision-makers to keep in mind how this proposal compares with the usual and typical housing proposals Ryedale Council (and other LPAs) normally receive and consider. The proposal is assessed against the four criteria under subheadings below.

1.15 The applicants maintain, for the reasons set out more fully below, that the design of the proposed dwelling is of exceptional quality and can be classed as truly outstanding. The proposal would help to raise standards of design more generally in rural areas and demonstrates that a blend of contemporary and more traditional architecture can be successful in rural areas, where it is considered to complement existing development and the established character of the area.

2: Context

2.1 The application site is located within the existing landscaped parkland grounds of Musley Bank House on the western fringes of Malton, and approximately 2km from the town centre.

2.2 Musley Bank House was built for a gentleman farmer to replace a more modest farmhouse on the same site in the late 19th century to serve the agricultural activities carried out on the land. Agricultural activities continued until a horse breeding and training business was commenced in the 1980s.

2.3 The landscaped parkland grounds around Musley Bank House have been created by the applicant on gently sloping south-facing land to the south and east of the property and comprise large areas of grass, a lake and associated planting, an extensive woodland belt along the eastern boundary, an access road with avenue planting, and occasional parkland trees, all of which are maintained to an exceptionally high standard.

2.4 To the west of Musley Bank House there is a very large horse training establishment operated by R.F. Racing Ltd, which has been significantly extended in recent years, and which includes a total of 4 separate dwellings occupied by owners / employees of the business operating from the site, together with extensive areas of gallops used for training some 200 horses on the site.

2.5 Between Musley Bank House and the R.F. Racing Ltd premises there is a privately owned dwelling known as "Grooms Cottage" which was extended in 2005 and further upgraded in 2009 to a very high standard, including a walled garden, extensive tree planting, and new lawns.

2.6 The scale and extent of the adjoining business and residential uses can be seen from the aerial photographs below.

R F Racing Stables complex

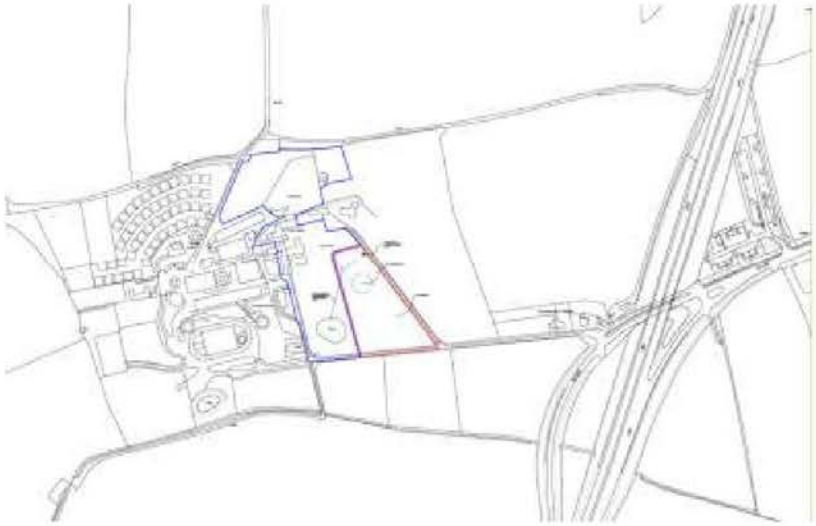
2.7 Immediately to the north and north-east of the application site there is a further privately owned dwelling known as "Lindrick Bungalow" with associated garaging and stables which was significantly enlarged and extended in 2000 by the current owners. This property is situated on slightly higher land but is well screened from the proposed development by existing trees and shrubs.

2.8 In 2000 the occupation of Lindrick Bungalow, which was previously limited to agricultural workers only, was widened to allow for occupation by any persons and the property was extended from 1800 to around 3,000 sq. ft.

2.9 Land to the east and south of the application site is in agricultural use being used for arable and / or grazing purposes.

2.10 The southern and western boundaries of the application site adjoin a privately owned access road leading to Musley Bank House and the horse training establishment. This road is designated as a public footpath, leading from the former entrance gates to Musley Bank House, at its eastern end, through to the horse training establishment, and thence northwards to Braygate Street.

2.11 In addition to the various dwellings mentioned above, there are also three small "lodge" cottages situated at the former entrance gates to Musley Bank House to the south-east of the proposed site.



Location Plan (site outline in red)

2.12 In total there are 10 existing residential properties in the immediate vicinity of the application site constituting a small but well established cluster of properties with an identifiable character, akin to some of the smaller settlements found elsewhere in Ryedale. Local knowledge suggests that 50% of the properties in the immediate vicinity are occupied by retired persons.

2.13 In a wider context, the site lies within the Howardian Hills Area of Outstanding Natural Beauty (AONB) in a landscape character zone described as the "north ridge" comprising a rich patchwork of crops, pastures, woods, trees, and hedgerows interspersed with areas of formal parkland and scattered settlements and traditional buildings with a special aesthetic appeal.

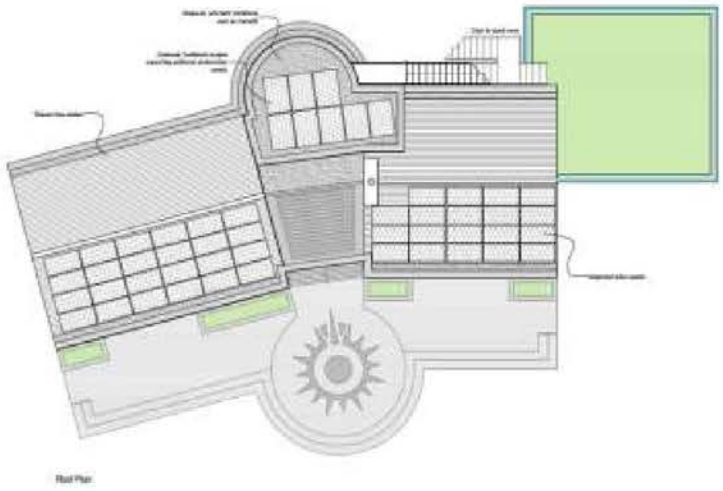
2.14 The Howardian Hills AONB was designated in October 1987 with the stated purpose of seeking to conserve and enhance the natural beauty of the area (including flora, fauna and natural features) taking into account the economic and social needs of its residents.

2.15 Within the AONB, decision-makers have a duty to "have regard to the purpose of conserving and enhancing the natural beauty of the AONB" in the determination of planning applications.

2.16 Although on the periphery of the ANOB, and within close distance of the busy A64, the site exhibits characteristics typical of the Howardian Hills and can be described as a country house set amongst mature trees in a parkland in a hidden gentle valley, with extensive broken views to the south of fields and pastures, rolling hills, and woodland. Planting is a mix of broadleaved species predominately beech and sycamore and more formal ornamentals and evergreens. The low boundary hedgerow is fragmented, allowing views into the site from the adjacent public footpath.

3: A Summary of the Proposals

3.1 The proposed development comprises the erection of a 4-bedroomed dwelling on two storeys comprising two separate wings joined by a central tower, together with a single story flat roofed garage integrated within the eastern wing of the house.



Roof Plan.

3.2 The proposed dwelling and garage are to be constructed on a newly created flat platform set into the existing slope of the land on a site to the east of Musley Bank House, from which it will be separated by a change in land levels, planting and new parkland style railings.

3.3 The extent of "cut and fill" necessary to allow the development to proceed has been determined by the nearby presence of trees which must be retained and by the topography of the site. Re-grading has been kept to a minimum to avoid root protection zones, minimise disturbance within the parkland and maintain the gentle sweeping landform as far as possible. Any excess soil not required for re-modeling of the site will be disposed of responsibly and with all necessary consents.

3.4 A new access drive serving the proposed new dwelling is to be constructed through the existing parkland to the south linking to the roadway alongside the southern site boundary.

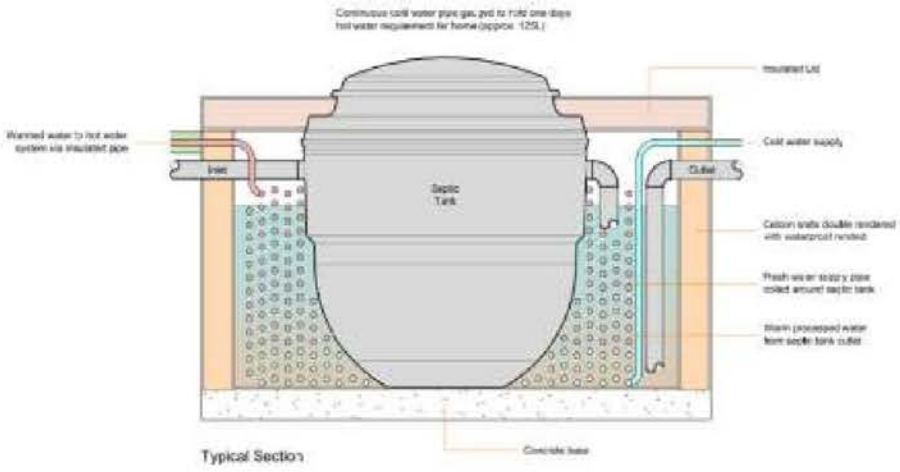
Site Plan

3.5 The proposed dwelling is to be constructed a very high standard of energy and water efficiency, beyond that required by Level 5 of the (former) Code for Sustainable Homes and with "Lifetime Living" principles in mind. This will include a grey-water recycling system, air-source heat pumps of a type yet to be tested in the United Kingdom, an advanced, and also as yet untested, ventilation and heat recovery system, and solar energy panels built into the roof pitches of the house.

3.6 The grounds of the new dwelling will be retained and managed as existing, with additional parkland planting where necessary, e.g. as infill along the boundary with Musley Bank House. This infill planting will further contain the site whilst screening long distant views of the A64 from Musley Bank House and creating an improved, sheltered setting for the wildlife pond. Hedging is proposed to help link the two properties whilst demarcating a new boundary line and providing privacy between the new property and Musley Bank House.

3.7 A semi enclosed area, in the south-eastern corner of the site, is to become and will be maintained as, a wildflower meadow, both to improve bio-diversity and as a natural progression from the current emerging tall grassland on the periphery of the woodland.

3.9 The proposed dwelling is to be connected to a new foul sewage system comprising a "package" treatment plant situated alongside the new dwelling, from which excess heat is to be recovered.



Pre-heating cold water via sewage digester plant

3.10 Rainwater is to be "harvested" from the roof of the proposed dwelling and re-used in a grey-water system as well as being collected in rain water butts for garden use, with any excess being fed into the existing pond within the grounds of Musley Bank House.

3.11 The innovative nature of the proposed development will allow currently unproven eco-technology to be tested in a practical and realistic domestic environment to provide an evidential "Proof of Concept" with the aim that lessons learnt can be copied and trickle down into mainstream practice in the future.

3.12 Deriving its power and heat from natural sunlight, inter-twining the wants and needs of modern eco-living as part of the wider environment to become part of the landscape, the proposed dwelling represents a significant and ground-breaking step forwards towards sustainable living.

3.13 Modern frameless glazing in the new house makes full use of the views afforded by its hipped format from sunrise to sunset forming a powerful visual connection with its landscape and the wild life sharing it.

4: Planning Policy

4.1 The "development plan" comprises the Ryedale Local Plan Strategy Document (adopted 2013) together with saved policies and the Proposals Map from the Ryedale Local Plan (2002).

4.2 The application site lies in an area of "open countryside" and within the Howardian Hills AONB where saved policy ENV 2 applies. In addition, policies SP13 (Landscapes), SP14 [Biodiversity], SP15 [Green Infrastructure Networks], and SP16 [Design] of the 2013 Strategy Document are also considered to be relevant.

4.3 As outlined above, Paragraph 55 of the National Planning Policy Framework (NPPF) is also considered to be relevant in this case since the proposed dwelling is located in an area of open countryside and special circumstances apply (see below).

4.4 In addition, the sections on Design, Landscape Character, and Heritage issues within the NPPF are also considered to be relevant in the present case.

4.5 The Ryedale Local Plan Strategy Document (SD) also includes important information, guidance, and advice on climate change, renewable energy, the provision of retirement accommodation, local character, country houses, and local needs housing, any of which could be relevant to the current application.

4.6 The SD is particularly detailed in respect of the need for retirement accommodation brought about by rapidly changing population demographics that has seen a rise in the number of retired people in the Ryedale area, e.g. at paragraphs 2.3, 2.8, 4.6 and 4.49 - 4.52.

5: Design Considerations

5.1 The scale, siting, design, and external appearance of the proposed dwelling and its setting within the existing parkland landscape at Musley Bank House have been the subject of extensive and intensive discussions between the applicant and his professional advisers – including a professionally qualified Arboriculturalist, Architect, Planner, and a Landscape Architect – all of whom have contributed to the final scheme.

5.2 In addition, advice has been sought - on two separate occasions - from the Yorkshire Design Review Panel, whose suggestions have been incorporated into the design process and the finished product wherever possible. The Design Review Panel visited Musely Bank House and conducted the second of these reviews at the site, giving them an opportunity to make their comments "in -situ".

5.3 A Landscape Visual Impact Assessment (see supporting documents) was carried out, with the siting and design of the proposed dwelling derived from first principles. Landscape character, the effect on views to and from Musley Bank House and other receptors, topography, historical factors, and location of existing trees all determine the area available, setting and siting, which has then informed the detailed design of the proposed dwelling.

5.4 The building has been designed as part of a well-considered approach to the whole site, which uses the existing levels to good effect, whilst also allowing the building to sit into the site levels to ensure, as the landscape around it matures, that it is assimilated into the topography, whilst maintaining a dynamic, but under-stated character.

5.5 The detailed design and external appearance of the proposed dwelling pays due respect both to the landscape setting and to heritage considerations, bearing in mind that the site is neither within a Conservation Area or the setting of either a listed building or a Scheduled Ancient Monument (and there is no known archaeological interest on the site).

5.6 The current proposals emerged, following consultations with the Design Review Panel, within this context as the Architects, Landscape Architects, Planners, and applicant devised a scheme that matched client requirements and satisfied the technical, environmental, and policy requirements of the various professions involved.

5.7 This process has resulting in a highly innovative scheme of "exceptional quality" capable of being determined in accordance with paragraph 55 of the NPPF.

5.8 The concept of the design for the sustainable home is to both complement the principal Victorian dwelling, Musley Bank House, whilst at the same time creating a new free-standing dwelling within its own curtilage and setting.

5.9 The landscape proposals aim to maintain the integrity of the site, by reflecting character aspects of the AONB and existing site features and disturbing the setting and key views of Musley Bank House as little as possible. They also seek to improve the setting by addressing some of the site imbalances (both visual and in terms of plant species/ variety) through the following devices: -

- Identification of "high" and "low" visibility zones between Musley Bank House and the public footpath / access road to the south;
- Repetition of landscape construction and design techniques to create visual and harmonious links eg. the addition of a stone retaining wall, at the same level and height, to match the raised stone terrace to Musley Bank House.
- Gentle contours maintained across the site;
- Estate type metal railings, of the style already on site and used elsewhere within the ANOB eg. Castle Howard and West Ness are proposed to provide discreet boundary demarcation. This will allow through views, whilst the narrow posts have less of an impact within the tree root protection zones;

Image of Estate Railings

- Additional native broadleaved planting to reinforce the boundaries and supplement the few oak trees on site;

- Modern installation techniques are used to allow the use of traditional style materials e.g. resin bound gravel to the single carriageway drive. This is softened by winding through woodland trees and adjacent wildflower verge, which is typical of narrow minor roads in the AONB.

- Where retaining walls are necessary, at the rear and sides of the property, they are stepped and planted to minimise their impact.

- Careful positioning and choice of curtilage boundaries - taking into account historical associations - between the existing and proposed dwellings. E.g The area of former kitchen garden belonging to Musley Bank House is defined, by limiting the rear curtilage of the proposed build.

5.10 The use of appropriate external materials and finishes, with attention to details, results in a comfortable and innovative combination of old and new building styles and materials when the existing and proposed dwellings are viewed in tandem.

5.11 Paragraph 55 requires the proposed dwelling to be subject to the following four "tests" requiring the proposal to: -

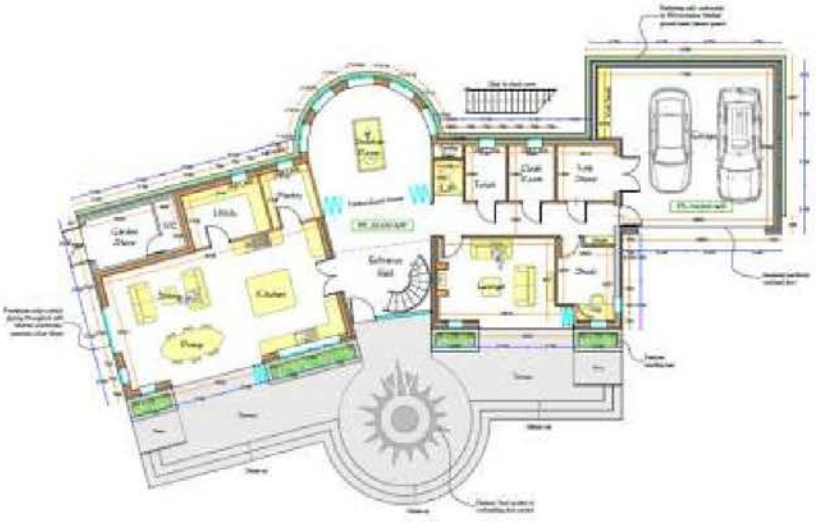
- be truly outstanding or innovative, helping raise standards of design more generally in rural areas;

- reflect the highest standards in architecture;
- significantly enhance its immediate setting, and;
- be sensitive to the defining characteristics of the local area.

5.12 The composition and form of this new sustainable house are derived from a pragmatic yet thoughtful approach by Mr & Mrs Brisby, to provide a deceptively spacious living environment, characterised by stylistic elements of design, intentionally incorporated for aesthetic purposes, and influenced by the functional requirements and ergonomic use of the home and its innovative components.

5.13 With otherwise minimal circulation space, a stunning feature staircase and galleried landing provide extensive views over the manicured parkland gardens and countryside beyond, much loved over 3 decades by the applicants and their family.

5.14 The careful balance of symmetrical and asymmetrical design radiates geometrically from a central tiered terrace with feature paving, defining the entrance and alignment of the component parts of the design. The vernacular, scale and massing of the proposed dwelling, sympathetic to the adjacent Musley Bank House, existing trees, and contours of the garden, provide a unique setting for a truly unique house.



Ground Floor Plan

5.15 The contrast and repetition of façade detail around the dwelling allow a creative unification of the solid and glass panels, balanced carefully with proportion and scale of each component. The integration of monochromatic shades, creates bold definition of the key lines which work in controlled, calm contrast to the meandering contours of the rising ground.

The entrance is defined in a simple and eloquent arrangement of a brise soleil.

Brise Soleil over entrance

5.16 Materials and form enhance the environment, with finely dressed Ashlar wall panels reflecting the characteristics of traditional local materials, under steeply pitched natural slate roofs, integrating photo voltaic panels taking full advantage of the south facing slopes.

South Facing Elevation

5.17 Frameless Low-E, solar control glazing maximize the enjoyment of the vista without compromising thermal loss or solar gain. Natural ventilation is delivered through a bespoke innovative pressurised ventilation system, across the whole house.

5.18 The flat roofed garage with artificial grass roof, partially integrated into the rising land, is understated, yet delivers an excellent sheltered raised outdoor seating area. The garage will house storage for non-recyclable and recyclable waste, readily accessible from within the house, together with charging points for electric vehicles.

5.19 The roof voids are fully ventilated with functional timber louvres in each gable, providing 24/7 optimum operating conditions for two state of the art air source heat pump units located in the roof void, in the 2nd floor plant room, which will produce all the power requirements for spatial and water heating.

5.20 The hot water system is primed by the innovative introduction of pre-heated water via the coiled pipework through a purpose-built plenum around the sewerage treatment plant, extracting heat generated by constant anaerobic degrading organic matter, and cunningly diverting this otherwise lost energy back to the house.

5.21 The harvesting of roof water will provide for indoor water use to toilets and washing machines, with surplus storage for garden irrigation and any over-flow being discharged to the existing pond. The proposed dwelling will also provide a fully sustainable surface water drainage solution.

5.22 These innovative technologies, described in further detail below, meet head-on the challenging issues of a carbon-free living environment and a truly outstanding and sustainable home.

5.23 Turning to the 'four tests' in paragraph 55, it is considered that the proposed dwelling exhibits various "truly innovative" technological features (see s.6 below) that will inspire and give confidence to other potential developers to seek similarly high standards throughout the UK in the future. In addition, it is also considered that the design of the proposed dwelling is of an exceptionally high architectural standard, reflecting the innovative technology contained within it, and that it too will set a high design standard against which future developments can be compared.

5.24 The detailed landscape and arboricultural analysis, evident in the plans and other material submitted with the application, has led to a deep and fundamental understanding of the site and its immediate surroundings, which, in turn, has been fed into the design process. The end result has, therefore, been heavily influenced by landscape considerations - both locally within the relatively recent man-made parkland setting of Musley Bank House, and regionally, within the timeless context of the Howardian Hills Area of Outstanding Natural Beauty.

5.25 The "immediate setting" (as referred to in paragraph 55) of the proposed dwelling is provided by the relatively recent man-made parkland landscape surrounding Musley Bank House, which, while attractive in own right, is of no special or historic value, as confirmed in both Design Review Panel Reports.

Heritage issues

5.26 Musley Bank House itself can reasonably be considered to be a **"non-designated heritage asset"** in the terms of the NPPF (para 135) and, although no changes are proposed to the applicants' existing property as part of the application, its setting - and in particular the residential curtilage around it - will be altered as a result of the proposed development.

5.27 The sub-division of existing curtilage between the existing and proposed properties at Musley Bank House was the subject of much discussion between the design team and the Design Review Panel at the two separate meeting that were held to discuss the proposed development.

5.28 The Design Panel's view was that the setting of Musley Bank House is man-made and of recent origin and, consequently, that it could be sub-divided provided that care is taken to protect views of and from the existing property and that the historic association of Musley Bank House to its immediate outbuildings and garden area is maintained.

5.29 As a result of these discussions, the applicants and the design team have retained all existing outbuildings within the curtilage of Musley Bank House along with an area of "former kitchen garden" extending behind the proposed dwelling. Views both to and from Musley Bank House to the south and east have been logged on the submitted site plan and the siting of the proposed dwelling, its access drive, and proposed curtilage identified with this issue in mind.

5.30 As a result of this careful analysis, it is considered that the setting of Musley Bank House will not be adversely affected by the proposed development and, therefore, that the requirements of paragraph 135 of the NPPF will be satisfied.

5.31 The site does not lie within a statutorily designated conservation area and there are no "listed buildings" or "scheduled ancient monuments" in the immediate vicinity. Any archaeological concerns can be dealt with by way of a planning condition if planning permission were to be granted.

6 Innovative Technology

Design implications

6.1 The proposed new house is designed with a totally holistic approach, incorporating the component technology in such a way that the house itself can be constructed as an efficient machine which provides for high quality, healthy living.

6.2 The footprint of the new house is centred around a circular tower giving it two wings angled towards the south. This allows solar panels, installed on the roof of each wing, to produce two peaks of power thereby smoothing the production curve of solar energy [electricity] over a longer period throughout the day.

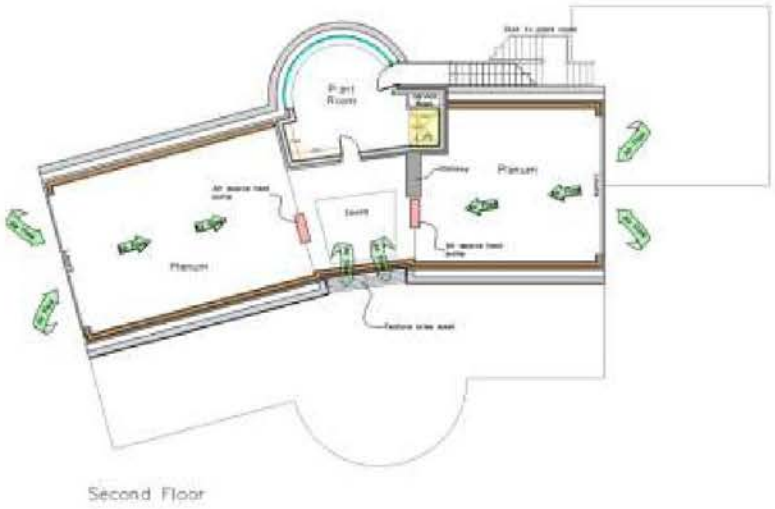
6.3 The energy produced by the solar panels is for immediate use /consumption either by household appliances, [including heat pumps], or for storage in a battery for consumption later. The result is complete 24-hour availability for up to 3 or 4 days via battery storage.

6.4 The roof design reflects the solar technology, the use of new CO2 heat pumps and rainwater harvesting.

6.5 The north side is conventionally clad with felt and slates. The south facing side has a " lean to " framework of solar panels and a void behind them, the void area being blacked out with heat absorbent material. The gable ends are fitted with louvres to form air intake units into the void area.

6.6 Behind the centre part of the ridge lies the tower above the Snooker Room and Bedroom 2. The tower is joined to the ridge by a flat roof enclosing what is designed to become the plant room below it. The plant room will house the hot water tank and the buffer tank (etc.) to supply the house with hot water and space heating, while the space between the two banks of solar panels is occupied by more louvres to form an air vent. The plant room will be super-insulated with vacuum panels equivalent to 600mm of foam.

6.7



Second Floor

Hidden behind these louvres are two air-source heat pumps, one drawing from the right and one drawing from the left. In these positions they will be programmed to recover radiant heat produced by the solar panels; first absorbed by the blackout material and then re-convected as warm air.
This feeds all the air required inside the apex towards the air source heat pumps located at the other end of each solar panel bank. The cold, heat depleted, air from the air source heat pumps is discharged through a set of louvres in the centre of the two roof areas [facing south]. Therefore, during the warmest sunshine hours the heat pumps can pick up pre-

heated air from within the void area and drive the COP [coefficient of production] up to around 7:1.

The technology

6.8 The PV panels from Sunpower [USA] have world record efficiency of 21%, and have the added advantage of maintaining maximum efficiency under high temperature conditions, unlike the majority of other solar panels installed on properties in the UK to date.

6.9 Power from the panels is prioritised for immediate consumption, with any excess not required being directed to an innovative "Z-cell" battery store (see below). Consequently no energy produced is lost or wasted.

6.10 A bi-product of the solar panels is radiant heat, which will be harvested by the air source heat pumps. Therefore, the solar panels selected can be used to gain the maximum energy possible from the limited roof space. Raising the air temperature raises the efficiency of the air-source heat pumps thereby reducing their run time, and hence, energy consumption.

6.11 The innovative factor associated with the proposed air source heat pumps is the use of CO2 as the refrigerant: They are a product of Japan where environmental concerns run high. Their coefficient of harm to the Ozone layer is ZERO because they use high pressure CO2 as the refrigerant as opposed to Hydro Fluro-carbons, which have been implicated in damaging the ozone layer. This issue is particularly relevant in light of the Government's recent commitment to reduce HFC production by 85% by 2036.

6.12 Technically, it is a challenge to use CO2 as the refrigerant, but it is rewarding in the fact that the new heat pumps can produce hot water much more efficiently, up to much higher temperatures [90C], and perform more efficiently in cold climates than all other existing air-source products. By design, the heat pumps have the shortest possible pipe run to the hot water tank to avoid first stage heat loss.

6.13 Cold climate countries have been the first to adopt this technology. To produce hot water at 65c the COP is 4:1 as opposed to a figure of 2:1 for standard heat pumps. This means the CO2 heat pump is a low cost, highly efficient ecologically sound solution for the new house to produce both hot water and space heating from one device.

6.14 The "Z-cell" Flow Battery, for energy storage, is an innovation from Australia, where particularly high energy costs have prompted its evolution and use. The advantages it possesses is to smooth energy consumption over 24 hours, fully utilising the capacity of the solar panels, and provide energy security for up to 4 days at a significantly lower cost than the grid. The proposed "Z-cell" Flow Battery comes with the disadvantage of being a relatively bulky, floor-standing item about the size of a dishwasher, in comparison with standard lithium products.

6.15 The market for storage batteries in the UK is still emerging but is currently dominated by lithium iron compact batteries from the likes of Tesla [USA] and Mercedes Benz [EU]. These are relatively high cost and have only been selected by early adopters of new technology.

Compared to lithium iron compact batteries, the"Z-cell" Flow Battery: -

*is cheaper per KwH stored with a 10 Kw H capacity (compared with a 2.5 KwH capacity of the lithium batteries);

*has a 10 year guarantee (cf a 5-year guarantee);

*has a 20 year lifespan (cf a 5 year lifespan);

*can be discharged and recharged from zero (cf. unadvisable to completely discharge) and;

*contains non-flammable and **non-toxic** materials (the latter a significant bonus in recycling terms).

6.16 This last crucial fact provides the final incentive to include the "Z cell" flow battery as another eco-friendly contributor to the technology package in the new house.

6.17 Both the CO2 heat pump and the "Z cell" flow battery are capable of making significant inroads into to the UK market once their credentials have been firmly tested and established. In time, they could establish a place in all existing and new homes as part of the drive to mitigate against climate change and the UK's move towards greater energy sufficiency. The proposed dwelling represents a first early-adopter critical in getting the process under way and the testing of the system in Ryedale is relevant, as many villages/properties are not served by mains gas.

6.18 In addition to the "Z-cell" unit, RedT [USA] can supply a 20Kwh semi-industrial version, which could supply extra power for topping up electric cars. Two electric cars making journeys of up to 50 miles return, i.e. Malton-York, or 100 miles return occasionally, i.e. Malton- Leeds, could be recharged by the RedT battery holding out the promise to reduce the need to find a charging centre or visit a petrol station for future occupants of the proposed dwelling.

6.19 Therefore, the existing diesel cars owned by the Brisbys will be replaced with 250-mile capacity wholly electric vehicles, adding further weight to the sustainability credentials of the proposed development.

6.20 The proposed air-handling unit is a 2nd generation model, designed and patented by the applicant, following an initial failure due to over complexity and problems with The Building Regulations. It is now a simpler, Building Regulations compliant, cheaper, spin-off from the initial

unsuccessful attempt that will augment any MHVR system, which could be retro-fitted to any under-performing passive systems, being capable of fitting directly onto standard air inlet trunking.

6.21 The new house provides a high profile opportunity to conduct the "proof of concept" stage in development of the air-handling unit before it is ready for any manufacturer to take on the product development and seeding programme needed to reach GEN 1 sales.

6.22 The air handling unit contains a high pressure centrifugal fan which forces incoming fresh air into a narrow slit arranged radially around the unit. This produces a thin high-speed layer of air which clings to the ceiling of a room.

6.23 From underneath, it entrains 20 – 30 times its volume of air to develop a circulatory effect. As the volume increases it slows down to achieve draught free air mixing. This allows large volumes of air to be introduced without discomfort to the occupants and the system to react freely to temperature or humidity changes.

6.24 Within this process, the temperature profile from floor to ceiling is destroyed, substantially reducing space heating requirements and contributing to the efficiency of the MHVR system it is attached to.

6.25 An extreme example of this phenomenon would be a log burner in a room in a "Passive Haus" which would normally overheat the occupants. With the applicant's innovative system installed, the excess heat from the log burner would be redistributed around the rest of the house and the room filled with ambient fresh air.

6.26 The final significant innovation to be applied in the proposed house involves the waste-water treatment plant - a common feature in the countryside where mains sewerage does not exist.

6.27 The Klargester unit proposed, and a volume of its own clean waste water, is housed in an insulated tank. A length of water pipe will coiled around the base of the Klargester unit gauged to hold 125 litres of cold water, equal to one day's hot water consumption.

6.28 The normal operating temperature of a Klargester is around 30C. The innovative step is to capture this lost heat, pre-heating the cold water in the coil before it enters the house hot water system with the target being to raise the fresh water in the pipe by 10C up to the fabric temperature (18C) of the house as a minimum to take a permanent 10C load off the house hot water system.

6.29 The most tangible benefit is with hot water, saving 20% of the temperature increase required to produce a shower or a bath at 55C

6.30 Separately, a grey water system would provide cold water for the toilets, dishwasher and washing machine, [leaving wash hand basins and the

kitchen sink served by mains supply]. The grey water is to be supplied from rainwater harvesting, supplemented from the mains if necessary. It will be extremely beneficial replacing the hard water of Ryedale with soft water and hence, greatly reduce detergent usage.

6.31 The new house design sets out to provide happy, healthy living accommodation for Mr and Mrs Brisby, embracing the provision of Paragraph 55 of the NPPF as a means to encourage new standards for new homes in the countryside. This goal, exemplifying and maximising renewable energy efficiency, is achieved within a totally holistic approach to Paragraph 55 with respect to all of its stated requirements.

7: Access Considerations

7.1 Vehicular and pedestrian access to the proposed dwelling is to be gained directly from the privately owned access road alongside the southern boundary of the site by means of a new entrance created in the best location to avoid root zones of existing avenue trees.

7.2 From here a new resin bound gravel surfaced access drive is to be constructed to existing grades, following a gently meandering route through the existing parkland and specifically designed to avoid the root protection areas of existing specimen trees, as well as to avoid visual intrusion through excessive ground works

7.3 The proposed driveway will be single vehicle width but sufficient to allow emergency vehicles and service / delivery lorries to access the site. An area of grass reinforcement will allow for passing vehicles and turning of delivery or maintenance vehicles, whilst maintaining the sweep of lawn.

7.4 Passing close by the eastern side of the proposed dwelling, the access road leads to a well-screened double garage and turning area, with level threshold access to the proposed dwelling.

7.5 The access road allows access to the proposed package treatment plant for future maintenance purposes.

7.6 As stated above, electric vehicle charging points will be provided within the proposed garage for use by occupants of - and visitors to - the proposed dwelling.

8: Analysis

8.1 From the above description it can be seen that the siting, design and external appearance of the proposed dwelling have evolved to suit the context within which it is to be located – in conjunction with the applicants' personal requirements and preferences - as well as the requirement to

reflect the technological innovations contained within it expressed by the Yorkshire Design Review Panel.

8.2 The resulting proposal represents a good example of how collaborative design between environmental planning and design professionals can result in high quality and sustainable forms of development capable of being built in the most sensitive areas of the country, such as The Howardian Hills AONB.

8.3 In this case, the proposed dwelling reinforces and consolidates the existing parkland landscape surrounding Musley Bank House with a sensitive and balanced approach of exceptional design quality and innovative design features, in accordance with paragraph 55 of the NPPF.

8.4 SD Policy SP13 "Landscapes" is considered to be of particular importance in the present case, given the location of the site within the Howardian Hills AONB and the nature of the parkland setting within which the proposal sits. This policy adopts a character-based approach to inform the decision-making process (paragraph 7.11), setting out a series of criteria against which development proposals should be assessed.

8.5 The policy seeks to encourage appropriate – and sustainable - new development in the AONB provided that it is located sensitively and will reinforce distinctive elements of landscape character, including the distribution and form of settlements and buildings in their landscape setting, and the character of individual settlements including building styles and materials.

8.6 Policy SP13 states that, "Proposals will be supported where they do not detract from the natural beauty and special qualities of these nationally protected landscapes or their settings" and in this case it is considered that the proposed development satisfies this requirement for the following reasons: -

- it is of an exceptionally high standard of design that reflects the historic nature of surrounding buildings, notably Musley Bank House;
- it is sited sensitively within a man-made parkland setting on a gently sloping hillside within an established cluster of residential and commercial properties and land uses;
- it reflects the "country house" tradition that is characteristic of this part of the AONB, as mentioned in paragraph 7.12 of the Strategy Document;
- it incorporates many sustainable features including innovative air source heat pumps, solar renewables, an advanced ventilation and heat recovery system, a battery storage system unique in the UK, and water re-cycling facilities;

- other than from the footpath / bridle-way running along the southern boundary of the site, it will not be prominent in long range views from surrounding roads or privately owned properties. In particular it will not be readily visible from the A64;

- it will balance up development on the site, providing a modern-day visual counter-point to Musley Bank House complementing it with a sense of arrival for future occupiers and visitors whilst at the same time helping to shift visual attention away from the large-scale commercial activities at the adjoining horse-training establishment;

- It will help secure the future of the existing parkland planting around Musley Bank House and will provide additional biodiversity features in the form of tree planting fulfilling stated objectives of the Landscape Management Plan 2014-2019 for the North ridge i.e.:

- encourage greater use of native broadleaves, especially towards prominent skylines and in association with parklands.

- Promote the retention, restoration and sympathetic management of hedges, particularly those in the most visible locations

- It will provide an element of visual enjoyment for local residents, ramblers, and other visitors to the area and be an inspiration to future developers in Ryedale.

8.7 Saved Local Plan policy ENV2 is also of importance, as it relates specifically to proposed developments within the Howardian Hills AONB, requiring that the natural beauty of the area be afforded the "greatest possible protection".

8.8 The policy states (inter-alia) that:

(i) Any development which would adversely affect the natural beauty of the landscape will not be permitted; (and that),

(ii) Small-scale development which would contribute to the economic and social well-being of the Howardian Hills AONB will be permitted provided that it is consistent with the protection of the natural beauty of the landscape and is compatible with AONB objectives; (and that)

(v) Where development is permitted, it must be of the highest standard of design reflecting the traditional character of buildings in the area, using materials traditional to the area and be sited so as to integrate satisfactorily with the surrounding landscape;

8.9 In the present case it is considered that the proposed development: is of a small-scale; is of an exceptionally high standard of design, responding to local context; will make a positive contribution to the economic and social

well-being of the area; and that it will have no adverse effects on the natural beauty of the landscape.

8.10 Certainly, in comparison with the adjoining horse-training establishment, the proposed dwelling will have little or no effect on either visual amenity or landscape character. Indeed, it will help to focus attention away from the large-scale commercial activities taking place at the adjoining site to the overall benefit of the AONB, carrying on the "country house" tradition referred to in paragraph 7.12 of the Local Plan Strategy Document.

8.11 The location of the site, within an established cluster of residential and commercial uses on the edge of Malton makes the location acceptable in terms of the overall strategy for housing development in the Local Plan Strategy, given the nature of the proposal and the social, economic and environmental benefits it will bring to the area.

8.12 SD policy SP14 encourages development that contributes to the achievement of sustainable development in respect of **Biodiversity** considerations. The policy seeks to ensure that new development achieves a net gain in biodiversity value and encourages the use of native and locally characteristic species in landscaping schemes.

8.13 In the present case there will be no loss of individual specimen trees from the existing parkland and the proposals are accompanied by a detailed planting scheme to supplement existing provisions, to the overall benefit of biodiversity value.

8.14 For similar reasons, the proposed development will also help to ensure that the aims of SD Policy SP15 ("Green Infrastructure Networks") are also achieved, with specific reference to The Howardian Hills.

8.15 SD Policy SP16, "Design" is also considered to be of importance to the present application and should be read in conjunction with the corresponding section in the NPPF (paragraphs 56 -68).

8.16 The policy states that:

"To reinforce local distinctiveness, the location, siting, form, layout, scale and detailed design of new development should respect the context provided by its surroundings including:

·Topography and landform that shape the form and structure of settlements in the landscape"

8.17 As stated above, these considerations were of primary importance during the design phase of the current proposals, as a result of which the proposed scheme satisfies all aspects of both the Local Plan and the NPPF (including Paragraph 55) in so far as Design issues are concerned.

9: Summary and Conclusions

9.1 The applicant maintains that the proposed dwelling is of "exceptional" design quality and represents a "truly outstanding or innovative" form of development that can be approved in the light of the NPPF, Paragraph 55 since: -

> it will be truly outstanding or innovative, helping raise standards of design more generally in rural areas, and;
>
> it reflects the highest standards in architecture, and;
>
> it will significantly enhance its immediate setting, and;
>
> it is sensitive to the defining characteristics of the local area

9.2 In addition, the proposed development satisfies the criteria set out in SD policy SP13, with regard to new development in the Howardian Hills AONB, as well as being in accordance with other relevant policies in the current development plan strategy document, and Policy ENV2 of the saved Local Plan.

9.3 It is in a sustainable location, close to the main urban growth area in Ryedale and all the facilities it offers, and within an established cluster of existing dwellings and commercial users where a new "country house" within a parkland setting would be entirely appropriate in terms of landscape character and visual amenity considerations.

9.4 Furthermore, the proposed dwelling will satisfy a local need and contribute to the retirement needs of the District, as highlighted in the Council's own policy documents and serve to inspire future developers to seek similarly high standards of design in Ryedale.

9.5 In this context, and taking into account the duty to "have regard to the purpose of conserving and enhancing the natural beauty of the AONB" it is considered that the application could and should be approved subject to the imposition of appropriately worded planning conditions.

This statement was jointly written by David Hickling (Northern Planners), Stuart Turton (Turton Associates), and Rosemary Mitchell (The Landscape Design Company) in conjunction with the applicants, Mr and Mrs I. Brisby: September 2017.