

# **Greatham Barns**

**Manor Farm, Greatham, West Sussex**

**Proposal to Satisfy the SDNP Dark Skies Policy**



**May 2021**

## **Introduction**

- 1.0 The SDNP received the International Dark Sky Reserve designation in 2016 and the Dark Skies Policy has become a key policy when considering Planning Applications in the National Park. The SDNP has published a technical Advice Note in April 2018 and this has been considered when producing this report.
- 1.1 Planning permission was granted for the conversion of the barn on 18<sup>th</sup> July 2014 with Planning Ref SDNP/13/04909 (Approved Scheme) and an analysis and comparison has been made between the Approved Scheme and the Proposed Scheme prepared by dRMM. The Proposed scheme has some changes to the fenestration which are reflected in the schedule of window areas.
- 1.2 The Dark skies policy came into effect after the Approved Scheme
- 1.3 The Granary Barn is situated in the E1a 2Km Dark skies buffer zone

## **The Site Location and Description**

- 2.0 The site is located 2 kilometres to the south of the village of Pulborough in West Sussex, which is in the southwest corner of the district of Horsham. Greatham is a hamlet and includes Greatham Church, Manor House and Farm and a few cottages, along Brook Lane to the east of Coldwaltham. The hamlet is situated in close proximity to the River Arun, which flows in an east west direction directly to the north. The National Grid Reference is TQ 04274 16002.
- 2.1 The site is accessed from a track, which runs north from the Greatham Road to the west of Manor Farm. The track divides the site in two; to the west is an early-mid 20th century parlour and to the east is a group of historic farm buildings whose farmyard is approached from the south.
- 2.2 The most historic part of the site comprises a large 9-bay timber framed barn/granary orientated NNE-SSW, a brick single storey dairy range to the west with collapsed stable machine building, a partly collapsed 4-bay cartshed to the southwest corner and a 5-bay cartshed to the southeast corner. The buildings form an inner courtyard. To the east is a flint and brick wall with the remnants of a range of open buildings, which are now collapsed, but there remains a 2

metre high brick boundary wall. In addition there is a dense tree line to the north and east separating the farm buildings from Manor Cottage 25 metres to the north and Greatham Manor 45 metres to the northeast. .

- 2.3 The farm buildings are north of Manor Farm, which is located 110 metres to the south and is separated from the farm buildings by a field. To the east of this is Greatham Manor Lodge, which marks the entrance to the long lane leading to Greatham Manor. A belt of trees to the west of the lane provides good screening between the farmyard and Manor. Greatham Church is located 70 metres to the east beyond a further belt of trees and is not visible from the farmyard.
- 2.4 The barn/granary was listed in September 2012 as a building of special architectural or historic interest and is Grade II. The site is also located in Greatham Conservation Area. The Grade I listed Greatham Church dates from the 12 -13 th centuries and the Manor is Grade II listed and dates from at least the 17 th century.
- 2.5 The historic farm buildings have been redundant for a number of years and the modern farm buildings were demolished in 2017. The historic farm buildings have suffered storm damage in recent years.
- 2.6 The site and its farmland are located in the South Downs National Park.

### **3.0 Light Pollution**

There are three types of light pollution

1. Sky glow – brightening of the night sky
2. Glare -uncomfortable brightness of a light source when viewed against a contrasting darker background
3. Light Intrusion -light spilling beyond the property being lit.

### **3.1 Lighting**

Lumens – total light radiated by a lamp – SDNP consider 500 lumens is sufficient for most domestic needs

Candela – the intensity of light in a given direction

Lux – (lumen per m<sup>2</sup>) – the illumination on a surface.

### **4.0 Lighting principals**

Lighting should be pointed down

Warmer colour (3000k) should be used

Reduce window areas

Low powered security lights on a proximity sensor

Garden lighting low powered

Use curtains and blinds  
Floodlights should not be used

Poorly designed or installed lighting will result in light spilling into areas or the sky where it is not needed

4.1 Lights will be installed to reduce the spill of light beyond the immediate task area.

#### 4.2 External lights

External lights will only be installed where required for health and safety reasons.

External lights will be shielded down lighters only

Lights will use colour temperatures of 3000K or less

Lights will 500 lumens or less

Lights will be operated by PIR movement sensor controls

### **5.0 Analysis of Proposed Scheme windows with the Approved Scheme**

5.1 This analysis takes account of the the area of doors and windows in each scheme and their orientation and their effect on the Dark Skies Policy.

**5.2** Both schemes are orientated around a courtyard where the effect of lighting on the surrounding area will be much reduced.

**5.3 Windows facing the River Arun** have far reaching views over the river and to Pulborough beyond. These windows are likely to have the greatest effect on the Dark Skies Policy.

5.4 From the windows schedule the submitted Proposed Scheme has a window area of 10.37m<sup>2</sup> while the Approved Scheme has a window Area of 11.05m<sup>2</sup>. In addition the large window (4.62m<sup>2</sup>) on the North West corner has been removed. The total reduction in area on the north facing elevation being 5.30m<sup>2</sup>

**5.5 Windows facing the courtyard** - From the window schedule the Proposed area is 92.64m<sup>2</sup> Approved scheme is 104.65m<sup>2</sup>. It should be noted that the approved scheme has a 1<sup>st</sup> floor bedroom with no window or rooflight and so does not comply with the building regulations. We have added 2.24m<sup>2</sup> for rooflights.

**5.6** The Dark Skies Technical Advice Note dated April 2018 (p44) says inward facing glazing in courtyards allow for greater flexibility. From the window schedule the total area of glazing is

147.58m<sup>2</sup> and the inward facing courtyard glazing represents 66% of the total.

**5.7 Windows facing south** - The window/door on the end of the barn has not changed. We do however, propose to use the old door as an internal shutter. to block out any artificial light. A new window has been added in the machine shed to comply with the building regulations for means of escape.

**5.8 Windows facing east** – from the window schedule the Proposed area is 34.64m<sup>2</sup> Approved scheme is 28.54m<sup>2</sup>. Windows facing east look into a walled courtyard with a 6ft wall and row of mature lime trees and evergreen trees behind. The effect of light from the windows on this elevation will be much reduced by these features.

**5.9 Windows facing west** - Dairy Building – from the window schedule the Proposed area is 7.73m<sup>2</sup> Approved scheme is 10.02m<sup>2</sup>. Windows facing west are shielded by the recently converted Parlour and outbuildings. The effect of light from windows on this elevation will be much reduced by these Buildings.

## **6.0 Conclusion**

6.1 The overall reduction of windows is 8.88m<sup>2</sup>

6.2 The windows on the North Elevation including the North East corner, the most visible elevation has been reduced by 5.30m<sup>2</sup> this shows a considerable improvement over the Approved Scheme.

6.3 The inner courtyard windows represent 66% of the total window area.

6.4 External lights will be shielded, will point down and will have the recommended colour temperatures, 500 lumens or less and will be controlled by PIR movement controls.

**6.5** We believe the Proposed Scheme shows a significant improvement on the Approved Scheme

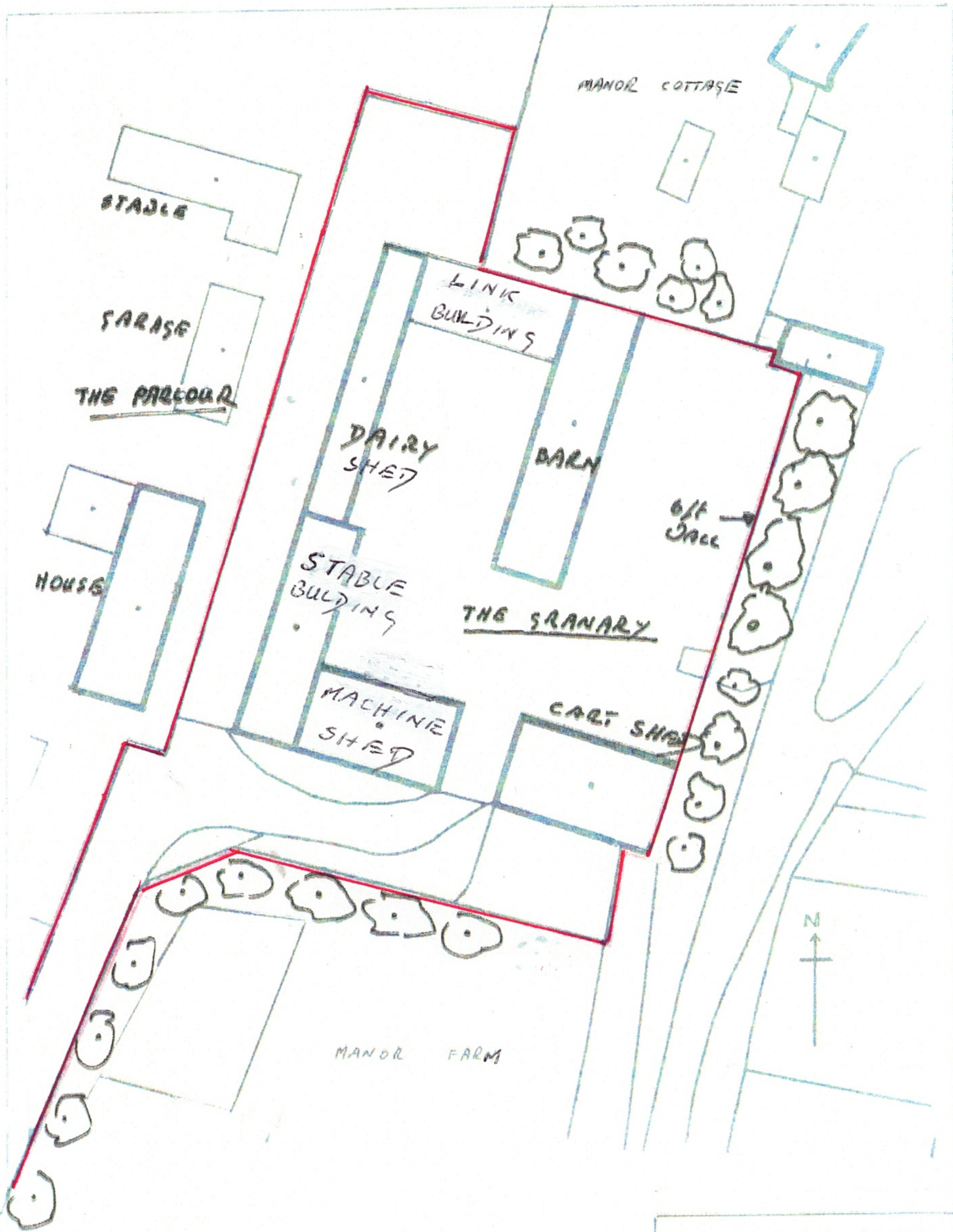
## The Granary Barn, Greatham, RH20 2ES

<b>Windows and Lighting Schedule</b>	Proposed m2	Approved m2	Difference m2	%
<b>Elevations Facing the River (North) ( Excluding Courtyard)</b>				
Link Building (including roof lights)	4.85	5.31	-0.46	
Granary Barn	1.12	1.12	0	
Dairy Shed – North Elevation	4.40	4.62	-0.22	
<b>Total for drawn elevations</b>	<b>10.37</b>	<b>11.05</b>	<b>-0.68</b>	<b>-6.15%</b>
<b>Elevations Facing the Inner Courtyard</b>				
Barn (West Elevation)	26.83	26.41	0.42	
Link Building – South elevation	31.24	32.12	-0.88	
Dairy Shed – East Elevation	10.45	10.45	0	
Stable Building – East Elevation	5.92	4.91	1.01	
Stable Building – East Elevation – allowance for 1 <sup>st</sup> floor velux	0	2.24	-2.24	
Machine Shed – North Elevation	18.20	28.52	-10.32	
<b>Total for drawn elevations</b>	<b>92.64</b>	<b>104.65</b>	<b>-12.01</b>	<b>-11.48%</b>
<b>Elevations Facing South (Excluding Courtyard)</b>				
Barn	2.20	2.20	0	
Machine Shed	2.32	0	2.32	
<b>Total for drawn elevations</b>	<b>4.52</b>	<b>2.20</b>	<b>2.32</b>	<b>105.45%</b>
<b>Elevations Facing – East (Excluding Courtyard)</b>				
Barn	34.64	28.54	6.10	<b>21.37%</b>
<b>Elevations Facing – West (Excluding Courtyard)</b>				
Dairy Shed -	7.25	8.02	-0.77	
Stable Building – West Elevation	0.48	0.56	-0.08	
Machine Shed – West Elevation	0	1.44	-1.44	
<b>Total</b>	<b>7.73</b>	<b>10.02</b>	<b>-2.29</b>	<b>-22.85%</b>
<b>Grand total</b>	<b>147.58</b>	<b>156.46</b>	<b>-8.88</b>	<b>-5.68%</b>

**Note : Most significant North Elevation - Proposed Scheme reduced by 5.68% compared with Approved Scheme or a 33% reduction if the north -west corner window (4.62m2) is included**

**Note : Courtyard elevations are 66.27% of the total glazed area**

**Note : The Proposed scheme has a reduced window area of 8.88m2**



THE GRANARY, GREATHAM  
 BLOCK PLAN-PROPOSED  
 DRAWING 04 MAY 21  
 SCALE 1:500