Foxes Rural Consultants

STRAW AND MACHINERY STORAGE BARN

AGRICULTURAL JUSTIFICATION STATEMENT

Hall Farm
Church Street
Gestingthorpe
CO9 3BA

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PARTICULARS

Document Title	Agricultural Justification Statement
Proposal	Application to erect a lean-to agricultural straw and machinery storage building
Applicant Details	W I Prior and Son
Site Details	Hall Farm Church Street Gestingthorpe CO9 3BA
Prepared by	Melanie Bingham-Wallis Farm Planning Consultant
Agent details	Foxes Rural Consultants Ltd Foxes House Foxes Lane Eight Ash Green Colchester Essex CO6 3PS

INTRODUCTION

This statement is submitted to support an application for prior notification for a new agricultural building at Hall Farm the purpose of straw and machinery storage. The application is made on behalf of the established farming business W I Prior and Son who farm at Hall Farm.

ENCLOSURES

Reference	Description
Floor and elevation plans	Refer to plans for scale
Location plan	Scale 1:35,000
Site plan	Scale 1:1,250
Agricultural Justification Statement	
Prior Notification Forms	Submitted via Planning Portal

STATEMENT OF EXPERIENCE

This statement of application has been prepared by Melanie Bingham-Wallis. I am a farm planning consultant employed by Foxes Rural Consultants Limited which specialises in rural planning matters. The company regularly advises on agricultural related planning applications, justifications and proposals throughout Essex, Suffolk and Hertfordshire.

The company is registered with the Royal Institution of Chartered Surveyors and the Central Association of Agricultural Valuers.

THE FARM BUSINESS

The Prior family have farmed at Hall farm for 3 generations. The farm business owns 122 hectares (302acres) of farmland at Hall Farm. The core operation of the farming business is arable cropping comprising of winter wheat, winter barley, and oilseed rape.

Table 1 – Farm cropping

Crop	Hectares grown	Average yield (t/ha)	Total tonnage
Winter Milling Wheat	68.7	11.16	766.69
Winter Barley	26.3	8.00	210.4
Oilseed rape	25	4.40	110
Stewardship	2.02	-	-

THE PROPOSAL

The application is for a lean to steel portal framed agricultural building measuring 27.41metres x 8.5 metres totalling 232.9m² for straw storage.

In recent years, the farm business has begun baling more straw from their farm with current arable commodity prices being low. Last year straw and hay was stored and stacked outside on field edges and sold at harvest rather than being stored to reduce losses, maintain quality and provide flexibility over marketing throughout the year. By selling at harvest when prices are at their lowest, the business is not maximising the potential profit obtainable.

Town and Country Planning (General Permitted Development) Order 2015 (the GPDO)

The GPDO permits new agricultural buildings every 2 years on agricultural holdings, up to a maximum cumulative floor area of 1,000 m^2.

Permission was obtained 9th August 2019 for a general purpose agricultural building (19/01468/AGR). The floor area for this building is 585sqm.

The floor area in this proposal totals 232.9sqm.

The total floor area of the two buildings will be 817.9msq. This below the threshold of 1000sqm and complies with GDPO legislation.

Compliance with the GPDO is set out in Table 2 below.

Table 2 – Main GPDO requirements

GPDO Requirement	The Building	Compliance with GPDO
Does the development exceed 1,000 sq.m	No. The development is 232.9 sq.m.	Yes
Is the holding greater than 5 ha.	Yes. The holding extends up to 122 hectares.	Yes
Does the building sit on a parcel of less than 1ha.	No.	Yes
Is the development more than 25 metres from the metalled part of the highway?	Yes.	Yes
Is the development within 3 kms of an aerodrome	No.	Yes
Has any agricultural building been built on the holding under the GPDO within the past 2 years?	Yes – floor area totalled 585sq.m August 2019 Please see above	Yes
Does the height of the building exceed 12 metres.	No. The ridge height is 5.5 metres.	Yes
Is the building to accommodate livestock?	No.	Yes

REASONS FOR THE BUILDING

The core reasons for erecting the building is:

1. To provide dry storage the straw crop.
2. Reduce losses and improve farming efficiency by 25% to prevent weathered losses of bales.
3. Provide purpose built modern agricultural facilities to add value to the farm's existing arable crops and improve profitability.

The applicants are now chopping less and baling more straw with a view of improving output prices for the farms arable cropping and straw production. The majority of the straw is sold from the farm, for the purposes of livestock bedding and animal feed. Currently there are no undercover straw storage facilities on the farm, as a result baled straw is stacked at the edges of the field where it can be weathered, or in some cases, it can be an arson target.

The external storage of straw in stacks is not feasible because this significantly decreases the quality. The outside top and sides of the stack are vulnerable to the weather, particularly rain. If it becomes wet, mould and bacteria begin to grow and break down the straw. This turns it black and cannot be fed to livestock and it also loses its absorptive qualities for bedding. In this case, 25% of the stack (top and sides) would be lost. This is the equivalent of 1 in 5 bales.

Outside storage of straw stacks is complicated by lorry access. The demand for straw is highest during autumn and winter. Last autumn 2020 – was one of the wettest on record with the wettest day on record being set in October 2020. Lorries accessing stacks were hampered by extremely wet ground conditions and caused damage to the soil structure.

It is intended that the building is constructed to provide the applicants with a dry, safe and secure straw storage building.

Fig 1 – Extract from Agro Business Consultants Business Costings Book page 296 showing Feeding Values of straw.

STRAWS				
Barley, untreated	867	18.4	6.5	42
Barley, ammonium treated	871	18.7	7.9	70
Barley, sodium hydroxide treated	806	17.4	9.0	45
Oat, untreated	846	18.2	7.2	34
Oat, ammonium treated	843	18.3	8.0	75
Oat, sodium hydroxide treated	787	16.8	7.6	32
Rape, untreated	865	18.5	5.5	62
Wheat, untreated	864	18.2	6.1	39
Wheat, ammonium treated	869	18.6	7.3	68
Wheat, sodium hydroxide treated	842	17.2	8.6	36

Barley straw is robust and lasts longer than wheat straw, which is brittle and breaks down easily. Barley straw is palatable, so a proportion will be eaten.

Animal Welfare

Mould spores can produce dust, which may cause respiratory problems, particularly in young animals. In wet years, the amount of mycotoxins produced by moulds present on the straw may be high. Around 300 harmful mycotoxins have been identified. Intake over a prolonged period may affect reproduction and growth of the livestock. In acute cases, clinical symptoms include weight loss and lowered immune status. Straw and muck can harden onto hooves, particularly between the claws, enabling pathogens to infect the foot more easily.

Furthermore, wet straw has reduced capacity to absorb animal waste. Livestock cannot keep themselves clean, with mud or faeces building up within their coats. This is both unsanitary and would result in the lowering of animal welfare standards.

As a result, mouldy or wet straw cannot be sold at a premium price, therefore affecting farm profits.

Fire Risk

The applicant has a duty of care to undertake a Fire Risk Assessment under the Regulatory Reform (Fire Safety) Order 2005 to ensure the safe storage of straw at the farm. Outdoor straw stacks are prone to arson and containing the straw crop inside the building will reduce this risk.

Storage to Maximise Marketing

The undercover storage of straw improves its quality and values for market. A premium is achieved for the crop if the applicant can store the straw and sell at an economically advantageous time, as opposed to during or after harvest when demand is at its lowest and availability is at its highest.

Storage enables the crop to be kept on site prior to sale. For any straw onward sold to a straw merchant, the straw price at harvest time is invariably lower than later on in the year due to supply and demand and it often pays for the farmer to store straw to consider variables when marketing agricultural produce.

Fig 2 – Extract from Agro Business Consultants Agricultural Costings Book – Storage Requirements of Straw

Bales		m3	ft3
Conventional Small Bales	Hay (compact to unsettled)	6 - 7	210-240
	Barley Straw (heavy to light)	9 - 14	310-490
	Wheat Straw " "	11 - 16	380-560
Round Bales (diameter 1.5m)	Hay	7 - 9	240-310
" "	Straw	16 - 19	560-670
Square Bales (0.8m x 0.8m x 2.5m length)	Hay (3.25 bales/t*)	5 - 5.5	170-190
	Straw (4.2 bales/t*)	6.5 - 7.5	220-260
Square Bales (0.7m x 1.2m x 2.5m) ('Quadrant')	Hay (2.5 bales/t*)	5 - 5.5	170-190
	Straw (3.2 bales/t*)	6.5 - 7.5	220-260
Square Bales (1.3m x 1.2m x 2.45m) ('Hestons')	Hay (1.55 bales/t*)	5 - 6	170-210
	Straw (2 bales/t*)	7 - 8	240-280

* *approximate estimate*

A square ('heston') bale measures 1.3m x 1.2m x 2.45m. Straw baled into a heston bale requires 8m^3 of floor space and there are 2 bales per metric tonne. Wheat straw yields approx. 2 tonnes (x4 heston bales) per acre as an average.

Comparison with Crop Commodity Prices – Worked Example

For any straw sold into the marketplace, the difference from one year to the next based on commodity prices is vast. The below is only an illustrative example to demonstrate the difference.

Through baling more straw through the business assuming a yield of 2 tonne of straw per acre @ £50 per tonne, this spreads the risk of the difference by improving output per acre of £100 per acre. The Farmers Weekly publication in Appendix 1 identifies the shortages of straw in the agricultural marketplace and importance of maximising the straw yields and baling of crops.

Assured Combinable Crops Scheme (ACCS)

The Assured Combinable Crops Scheme (ACCS) is an industry wide standard that maintains a minimum standard for the growing and storing of crops. Modern stores need to meet the standards required by straw buyers to mitigate any presence of vermin.

Drying of Straw

To be able to supply a straw crop into any onward market and to meet the quality requirements of the straw merchants, good quality straw generally has a moisture content of no more than 15–20 per cent and the applicant must ensure that the dry matter of the straw is correct. This is usually undertaken using a moisture probe at harvest time and it is then paramount that when the crop is carted back to the farm that it is stored in a dry and secure building undercover to maintain the maximum dry matter content for livestock feed and bedding.

The storage of straw outside leads to a poor dry matter content for much of the crop and limits its availability for marketing with straw merchants due to weathering - generally all of the top and outer layers of the stack are lost as second grade straw due to it having become wet, mouldy and turning black. Furthermore, the storage of straw outside poses an arson risk.

There are often price penalties for straw which has a high moisture content which is being sold for onward sale to a straw merchant. Storing the straw undercover enables the farmer to keep the moisture levels down which avoids penalties and prevents the straw from rotting whilst the straw is stored throughout the winter before it is sold.

Guidance from the Agricultural and Horticultural Development Board states that straw should be stored under cover to best support the livestock enterprises and wet straw has little absorptive capacity.

In addition to supplying straw merchants, the applicant also supplies the straw for generating electricity. Due to the fact that the straw is burnt for power generation, there are strict moisture levels that must be adhered to. If the straw is either baled at too high a moisture level, or if the baled straw is allowed to get wet through precipitation, the straw is considered too wet to burn. If this occurs, the entire load is returned. This has an extremely high negative economic impact on the earnings.

Farm Machinery Storage

The undercover storage of farm machinery is essential for security, maintenance and longevity of this equipment. While machinery is stored outside, especially during the colder months, it is prone to weathering effects. This causes ceasing of machinery bearings and parts, rusting of chains, weathering of frame, body work and paintwork. The replacement or maintenance costs increases, and life expectancy reduces due to the weathering effects on the farm machinery. Undercover storage gives protection from the elements, reducing maintenance costs and prolonging life expectancy of machinery.

The undercover storage of farm machinery which is currently stored outside will also improve the visual aesthetics of the surrounding area. Furthermore, the undercover storage of machinery increases the security of the machinery and reduces the risk of theft.

DESIGN, SITING AND EXTERNAL APPEARANCE

The building proposed is of a standard design for agricultural buildings. The colour and cladding have been selected to complement the existing buildings located on site.

Table 3 – Design of building

Building Size	The building measures 8.5metres x 27.4metres totaling 322.9 m^2
Walls	The side and gable elevations of the building will be clad in juniper green 0.5mm single skin steel box profile sheeting to the eaves with 2 metre high natural coloured pre stressed concrete panelling from ground level.
Roof	The roof of the building will be a fibre cement roof
Eaves Height	The eaves height has been kept to a minimum practical height at 4 metres
Roof Pitch	5 degrees
Ridge Height	The ridge height is 5.5 metres
Doors	There are no doors. The eastern gable end will be open
Floor	The base inside the building will be a concrete power floated floor.

Siting

The applicants are siting the building within the existing farmstead and within the curtilage of the existing buildings.

Amount

The proposal relates to one general purpose straw and machinery store barn.

Layout

The layout of the building has been designed to enable to be fit for its intended purpose. The building has been designed to have a layout that is consistent for its practical and efficient use in the context of the existing buildings.

The layout and configuration of the building is in keeping with the layout and orientation of existing buildings on site.

CONCLUSION

This proposal is for an agricultural building required to support storage of straw crops to maximise profits. The dry and secure storage will prevent losses through degradation by mould growth. The moisture levels and quality will be maintained therefore a high price will be obtained at market price. The building has been designed to be appropriate its intended agricultural purpose and the farm business is of a scale that justifies the proposed building.

The proposal complies with the prior notification procedure outlined under the Town and Country Planning (General Permitted Development) Order 2015.

Melanie Bingham-Wallis

RURAL PLANNING AND FARM CONSULTANT
FOR AND ON BEHALF OF FOXES RURAL CONSULTANTS LIMITED

Date – 14.06.2021

APPENDIX 1 – FARMERS WEEKLY ARTICLE

Cereal growers to bale more straw as market tightens

Emma Gillbard 22 June 2020

© Tim Scrivener

Cereal growers are planning on baling more straw this harvest, rather than chopping it, as a means of recouping lost income and helping the livestock sector.

According to AHDB estimates, the UK wheat area is expected to be about 17% down this year, leading to potential straw shortages. Meanwhile, silage production is also reported to be down, thanks to the dry spring.

See also: Higher straw prices expected for harvest 2020

With cereal yields also expected to be well below their five-year average, growers are now considering baling straw rather than chopping, in a bid to make-up for potential income losses.

Herefordshire grower Robert Beaumont, who farms 100ha of arable at Sindons Mill Farm on the Herefordshire/Worcestershire border, is planning on baling all 50ha of his white straw to sell to local livestock farmers.

Usually, he would chop it all and incorporate it into soils to promote organic matter levels as part of his focus on regenerative agriculture.

But with his winter wheat yields expected to be down by nearly 3t/ha, from his 10t/ha average, baling and selling his straw will play an important role in recuperating lost income.

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"The way the season has played out, we need to maximize our margins where we can, as we're expecting poorer yields and still have rent to pay," he told *Farmers Weekly*.

He explains that as he farms in a livestock dominated area, demand for straw is high and, consequently, many other arable farmers are also looking to bale their crops this year.

Selling straw can help out farmers

After being approached by two livestock farmers who were unable to get adequate straw supplies from their usual suppliers, Kent grower Guy Eckley, who farms 500ha of combinable crops at Saynden Farm, near Maidstone, decided to help by selling 80ha of his winter barley straw.

He admits that this isn't something the farm usually does, as the inclusion of straw into the soil helps enhance fertility on his heavy weald clay land. He also raises concerns of the additional traffic bailing will bring to his controlled traffic system.

"Selling straw, however, does provide us with another output and, as the demand is there, it's good that we can help out other farmers where we can," he said.

Straw merchants have been expecting firmer prices in a number of upcoming standing straw auctions, with a 15-20% market increase predicted due to the changed supply and demand situation.