

MR T CULLUM

LOWER PADDOCK, EAST WOOD FARM, SHAVES WOOD LANE,
ALBOURNE, WEST SUSSEX

Flood Risk and Outline Drainage Statement

December 2024

1. THE SITE AND PROPOSED DEVELOPMENT

1.1 The Site

- 1.1.1 The site comprises a former crop field located within the wider site known as East Wood Farm. The wider site comprises a residential dwelling with surrounding garden, a small barn complex with yard areas, areas of woodland, crop fields, pasture and a series of inline lakes/ponds. The Ordnance Survey map reference for the approximate centre of the site is TQ 24735 15006. See Appendix A for the site location and existing site plans.

1.2 Proposed Development

- 1.2.1 It is proposed to develop an equestrian centre with indoor arena, stables, outdoor arena and covered horse walker, to re-surface the existing track to be used for site access, and to create a balancing / ecology pond, together with associated earthworks and soft landscaping within the crop field located to the east of the ponds. See Appendix B for the proposed site plans.
- 1.2.2 The development area (within the red line boundary) is **X.X** ha. A Flood Risk Assessment is required in this case, as the site area exceeds 1 ha.

2. FLOOD RISK

2.1 Flood Risk

- 2.1.1 Flood mapping produced by the Environment Agency, available online, has been used to identify flood risk at the site. The full extent of the site lies within Flood Zone 1, at low risk of flooding from rivers (and the sea). See Appendix C: EA Flood Map for Planning.
- 2.1.2 The proposed development area is not at risk of alternative sources of flooding including surface water flooding, groundwater flooding or flooding from reservoirs.

- 2.1.3 The proposed development will result in an increase in sealed surface. Where an appropriate drainage scheme is not implemented this may result in an increase rate at which surface water run-off leaves the site, which could have impacts on flood risk elsewhere.
- 2.1.4 An outline drainage scheme has been prepared by Trevor Furse of Furse Landscape Architects Ltd to ensure that surface water leaving the site does not exceed the existing green field run-off rate.

3. OUTLINE DRAINAGE SCHEME

3.1 Foul Drainage

- 3.1.1 The foul drainage design works by collecting foul water from the toilets / sinks and directing the water to a Bio-Digester system located to the west of the isolation stables adjacent to the deposited Reed Bed filtration area adjacent to the menage. Treated liquor from the Bio-Digester will be directed into the Reed Bed for further natural treatment before being discharged into the balancing pond where peripheral Reeds and Marginal planting will provide additional filtration and dilution of liquor. An additional overflow connection to the balancing pond, via the Reed Bed out flow pipe is proposed, to allow the Reed Bed to be isolated from the foul drainage system during periods of maintenance of the reed bed.

3.2 Rainwater Harvesting

- 3.2.1 The rainwater harvesting system will utilise roof run-off water which will be directed to a central tank which will allow water intensive activities such as washing down, watering plants and cleaning to be supported by harvested rainwater. Once water is collected in the underground water tanks, it will be directed to external taps via an underground pump chamber which will allow for sediment filtration and treatment of the harvested water prior to being distributed as a non-potable water system.

3.3 Surface Water

- 3.3.1 All water that falls on the hard surfaces within the courtyard will be captured using porous block paving and the addition of surface water gullies to take collected excess water off into either the adjacent individual rain gardens or directly to the main reed bed via a series of silt traps. The reed bed pollution control valve will enable the surface water system to be isolated if a spillage of petrochemical or other toxic material occurs.
- 3.3.2 Rain gardens are strategically located adjacent to hard surfacing and the periphery of the menage thereby directly intercepting any surface and subsurface run-off and controlling its flow and eventual discharge into the balancing pond and its peripheral reed bed. The planting within the rain gardens will provide some attenuation and filtering of the water flows.

- 3.3.3 This system is provided to ensure that the current green field run-off rates are not exceeded which have been estimated using the HR Wallingford Runoff tool:

Greenfield runoff rates	
	Default
QBAR (l/s):	13.48
1 in 1 year (l/s):	11.46
1 in 30 years (l/s):	31.01
1 in 100 year (l/s):	43.01
1 in 200 years (l/s):	50.42

- 3.3.4 Discharge from the balancing pond will be through a flow control device such as a hydro brake to control peak flow rate discharge into the existing northern pond. This pond is directly linked to the adjacent larger fishing pond on the adjoining land with its outfall running northwards via a tributary of the River Adur.

4. CONCLUSIONS

- 4.1 The site does not lie within an area at risk of flooding from river/sea or alternative sources of flood risk. No flood risk protection measures are indicated in this case. However, the development area exceeds 1 ha in size, and is to include new areas of hard cover which will impact surface water runoff from the site.
- 4.2 An outline surface water management scheme has been prepared by Trevor Furse of Furse Landscape Architects to ensure that the surface water runoff from the site does not exceed the green field runoff rate. This outline scheme is to be submitted to Mid Sussex District Council as part of the planning application for the redevelopment of the site. Where it is deemed that the scheme meets the Council's requirements, and runoff rates can be suitably restricted to the green field rate, the proposed development of the site will not increase flood risk elsewhere.

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