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Proposed Development

**Lidsey Caravan Park
A29 Lidsey Road, Lidsey
Bognor Regis, West Sussex**

Flood Risk Assessment

On behalf of

Mr R A Eggins

**November 2008
1250-R1**

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PROPOSED WARDEN ACCOMMODATION & WORKSHOP

LIDSEY CARAVAN PARK, LIDSEY

BOGNOR REGIS, WEST SUSSEX

Flood Risk Assessment

1. Background

- 1.1 This report has been produced on behalf of Mr R.A. Eggins, in support of a planning application for the construction of a dwelling to be used for warden accommodation, together with a new maintenance workshop, on Lidsey Caravan Park, Lidsey Road, Lidsey.
- 1.2 The report concerns flood risk and has been prepared generally in accordance with the recommendations of Planning Policy Statement 25 – Development and Flood Risk (PPS 25).
- 1.3 The drawings supporting this report are as follows:
- Dwg. No. 1250/1.1 Flood Risk Assessment Plan
Location Plan at 1:2500; Plan at 1:200

2. The Site

- 2.1 The site is located on the western side of the A29 Lidsey Road, Lidsey, at OS Grid Reference SU 9378 0278. See Dwg. No. 1250/1.1 for a Location Plan.

2.2 The caravan site has an area of approximately 6.5 hectares and is surrounded by predominantly farmland on the western and southern boundaries, together with an open ditch which runs parallel to the site boundary. The eastern and northern boundaries adjoin other residential properties and the A29 Lidsey Road.

2.3 The site is currently used as a seasonal caravan park, which includes permanent on-site warden accommodation, static caravans, various workshops/toilet facilities and a clubhouse. In addition, there is a storage yard which is used by a civil engineering contractor.

3. Topography

3.1 Ground levels on those parts of the site proposed for new buildings are between 3.1m and 4.4m Above Ordnance Datum (AOD). Levels in general, fall in an easterly direction towards the A29 Lidsey Road.

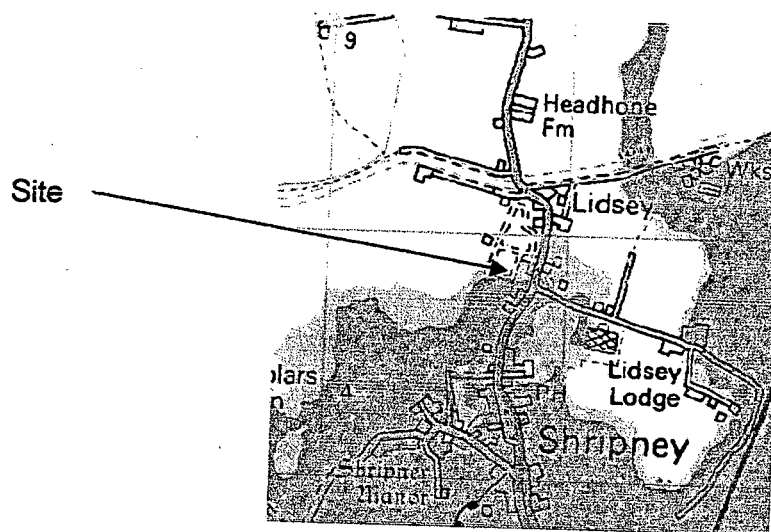
3.2 Levels in Lidsey Road at the Caravan Park entrance are around 3.0m AOD rising gradually to 3.7m AOD at Lidsey Farm, then continuing to rise more steeply in a northerly direction.

3.3 Levels fall gradually in a southerly direction towards Sack Lane (2.7m AOD) and Shripney Lane (1.60m AOD).

4 Proposed Development

4.1 The development comprises the demolition of an existing workshop and the construction of new living accommodation/office for the on-site warden. The building will be located on land currently used as a storage area by a civil engineering contractor. The building will include two bedrooms, a study and an office. Demolition of the existing workshop will enable vehicular/pedestrian access through the caravan park site to the new dwelling.

- 4.2 The development also includes the demolition of a maintenance building/toilet block and the construction of a new maintenance workshop, which will have a slightly larger footprint. Details of the development are shown on Dwg. No. 1250/1.1.
- 4.3 Vehicular access to the new development will be from the existing entrance to the caravan site onto the A29 Lidsey Road.
5. Consideration of Flooding Issues
- 5.1 There are no records of past flooding on the site itself.
- 5.2 The Environment Agency's prediction for the 1 in 200-year surge tide level for Bognor Regis is 5.1m AOD for the year 2115.
- 5.3 Properties known as The Granary and The Cooperage to the east of the caravan site have been known to suffer flooding in the past, predominantly due to groundwater issues and inadequate surface water drainage. These properties are much lower lying, however, with ground levels of around 2.60 – 2.70m AOD. Groundwater is not considered to be an issue on the caravan park site, as the land is significantly higher here.
- 5.4 The highway, at the junction of the A29 and Sack Lane, has a long history of flooding. West Sussex County Council has carried out various improvements to the drainage system but highway flooding remains a serious problem and they have a major capital scheme planned. This involves the construction of a new ditch on the eastern side of Shripney Road from the Sack Lane junction south, passing to the east of the Robin Hood and eventually connecting to a watercourse that leads to the Lidsey Rife. The scheme has yet to receive the necessary funding, however.
- 5.5 The development site lies partly within Flood Zones 1, 2, and 3a on the Environment Agency's flood map, as shown below, indicating that the site may currently be at risk from tidal flooding. However, this tidal flood zoning does not take account of the existence of coastal defences, which are substantial along the Bognor Regis foreshore and maintained at public expense.



- 5.6 Arun District Council's Strategic Flood Risk Assessment (SFRA), also indicates possible flooding in an extreme event affecting the site, as shown on Map C2-T depicting 'future tidal flooding with no coastal defences'. This flooding is considered to be a low risk, however, as it is not envisaged that the coastal defences would be allowed to deteriorate to any extent that provides a lower standard of protection to that which currently exists, given the value of land, property and infrastructure protected.
- 5.7 Predicted tidal flood levels with the existing coastal defences in place but suffering from a breach in the area of the Aldingbourne Rife outfall, would be in the region of 2.1m AOD. Flooding from such an event would not affect the site or the access/egress route to the north.
- 5.8 With regard to fluvial flooding, the extent of the future (2106) flood zone is shown on Map C1-F of the Arun DC SFRA. Maps C2-F (flooding with no defences in place) and Map B (possible flooding from a breach in the tidal defences) show very similar flooding extents to that above and will not, therefore have any effect on the site.
- 5.9 The 1 in 100 year fluvial flood level for the Aldingbourne Rife corridor is generally accepted to be 1.90m AOD. Levels on the site are significantly above this and it is therefore considered that there is no risk to the site from an extreme fluvial flooding event.

6. Foul Water Drainage

- 6.1 The caravan park currently has its own sewage treatment plant, which is in the ownership of the applicant. As indicated on the drawing, the final treated effluent discharges to a 300mm diameter pipe in Shripney Road, which was originally a piped ditch but is now considered to have the status of a highway drain.
- 6.2 Additional foul flows from the new development are insignificant and unlikely to have any effect on the operation of the treatment plant but the applicant has been advised to check this, together with the details of his discharge consent.

7. Surface Water Drainage

- 7.1 There is limited positive surface water drainage in the caravan park but some run-off drains to soakaways and some to the ditch on the western and southern boundaries. There are no public surface water sewers in the vicinity.
- 7.2 The open ditch becomes culverted as shown, in a 150mm diameter pipe which discharges to the highway drainage system in Shripney Road. The highway drain outfalls to a watercourse on the west side of Shripney Road just upstream from the Shripney Lane junction.
- 7.3 As indicated on the drawing, there is a 100mm diameter overflow from the ditch, that also connects to the highway drain in Shripney Road.
- 7.4 In due course, approval will be sought from Arun District Council and the Environment Agency for the proposed discharge of surface water from the new development to either soakaways or the ditch on the southern boundary.
- 7.5 Percolation tests will be carried out and new soakaways designed to BRE 365. It is possible that a high level overflow to the ditch will be required.

8. Conclusions and Recommendations

- 8.1 The proposed developments are shown to lie partly within Flood Zones 1, 2 and 3a on the Environment Agency's flood map and a Flood Risk Assessment has been carried out in accordance with PPS 25.
- 8.2 Topographic survey and reference to Arun District Council's Strategic Flood Risk Assessment has shown that the site is not vulnerable to fluvial flooding.
- 8.3 It has also been shown that the site would only be vulnerable to tidal flooding if the existing coastal defences were to suffer a complete collapse over an extended length and period. This is considered to be a very low risk as they are maintained to a high standard at public expense.
- 8.4 There is no risk of groundwater flooding due to the site level and surrounding topography.
- 8.5 There are surface water disposal issues that will need to be resolved following percolation testing and consideration of groundwater levels. A connection to the ditch that lies on the western boundary may be required, subject to the necessary formal approvals.
- 8.6 Safe access/egress for emergency vehicles/occupants can be achieved via the caravan site's existing entrance, in a northerly direction along Lidsey Road towards Woodgate.
- 8.7 Despite there being a very low risk of flooding, it is recommended that new building work is designed in accordance with good practice in flood risk areas, employing flood resilient materials and building techniques with raised electrics. It would also be prudent for the occupants to subscribe to the Environment Agency's Floodline warning system.

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