

MD1809 Palin Drive

Drainage Statement

MD1809(A)Drainage Statement_

Introduction

Flood History / Existing Flow Routes

There is no history of surface water flooding at this site, nor is there any visible evidence of surface water flows on or immediately adjacent to the site

Existing Drainage

Anglian Water have provided maps of their assets (see appendix) – there are accessible foul and surface water sewers in Palin Drive to the south and also lateral drains along the rear and side of No. 13 Palin Drive.

There are no watercourses locally

Preliminary Evaluation

Foul Water

The discharge from this development will be very modest and it is anticipated that a new foul sewer connection will be approved by Anglian Water.

Inspection and check against Approved Document H (Part H, Building Regulations) show that both the public sewer and the lateral drain could receive the modest waste water flows from the development.

Surface Water

On the basis of the flood risk and absence of any evidence of flooding or surface 'flow' routes, it is assumed that the land provides a degree of interception and infiltration via existing soils.

Preliminary evaluation using the 'UK SUDS / HR Wallingford' tool suggests that infiltration is unlikely to be appropriate generally for this development due to likely ground conditions (see report in the appendix).

Inspection of records and drainage locally support the UK SUDS report:

- Recent residential development drains to sewer, not soakaways.
- Local land levels are only a few metres above sea level and much of Spalding is within flood zone 2 or 3

and it is therefore assumed that ground conditions prevent the use of soakaways or other 'concentrated' infiltration components for run off from roofs and any other impermeable surface. In the absence of a watercourse, run off will be discharged to surface water sewer. This will be subject to restrictions of flow rate.

Water Quantity

Greenfield run-off rates and estimated storage requirement have been calculated for the proposed scheme using the 'UK SUDS' / HR Wallingford tools – output reports are included in the appendix:

Whole site green field run off rate l/s

Return Period

1 year	0.05	
30 year	0.14	
100 year	0.20	

Note: The UK SUDS green-field run off tool cannot directly calculate for this small site – site size has been factored by 10 and the results similarly (hence the values above)

The whole site estimated attenuation storage for the 100 year event based on a run off rate of 1.4 l/s/H is 7 cu.m – due to limitations in the UK SUDS tool (related to minimum impermeable areas), this does not take into account infiltration effects from landscaped areas and permeable hardstanding so is considered to be conservative.

Outline Proposals

All surfaces within the development site to be permeable:

Pathways, patios etc: stone paving, open joints

Driveway: proprietary block paving, open joints

Second parking area: gravelled

All residual surfaces to be soft landscaping

Remaining run off (roof) to be piped to 7.0 cu.m sub-surface geocellular storage below driveway – this is to discharge through a proprietary flow control unit e.g JRW Civils 'Oriflow' sized for 100 year event flow rate (0.2 l/s)

Exceedance flows

The flow control unit to have an overflow system (see trade literature)