

**APPEAL REF: APP/B1740/W/23/3324227**

**Council Ref: 22/10813**

**Description of Development: Demolition of the existing buildings and the erection of 25 dwellings with associated access, landscaping and parking.**

**Site: Orchard Gate, Noads Way, Dibden Purlieu Hampshire SO45 4PD**

**Appellants: AJC Group**

**Local Planning Authority: New Forest District Council**

## **Proof of Evidence – Thomas Callaway BSc (Hons), Hampshire County Council (LLFA)**

### **1. Introduction**

- 1.1. I am the Flood and Water Management Engineer for the Lead Local Flood Authority (LLFA), Hampshire County Council (HCC). I have 12 years' experience in drainage and flood risk at local authorities. I confirm that this proof of evidence contains my true and professional opinions.

### **2. Scope of Evidence**

- 2.1. HCC as the LLFA is a statutory consultee for all major development, with the scope of comments limited to the surface water drainage proposals. The primary focus is to ensure that flood risk is not increased to the site or any other location, and that surface water drainage proposals are suitably sustainable in accordance with national policy and best practice guidance.
- 2.2. The National Planning Policy Framework (para. 169) states: 'Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:
  - (a) take account of advice from the lead local flood authority;
  - (b) have appropriate proposed minimum operational standards;
  - (c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
  - (d) where possible, provide multifunctional benefits.'[CD 7-1]

### **3. Initial Surface Water Drainage Proposals**

- 3.1. The surface water drainage strategy as originally proposed by Calcinotto (July 2022) relied on discharging runoff through infiltration to the ground via soakaways and permeable paving [CD 1-28].
- 3.2. The LLFA commented that winter groundwater monitoring and infiltration testing had not been undertaken in accordance with best practice, and that the layout and calculations should be revised following further ground investigation work.
- 3.3. Infiltration testing should be undertaken in accordance with BRE Digest 365 'Soakaway Design', which requires the lowest infiltration rate from three successive tests in a pit at the location and depth of proposed infiltration structures. Insufficient testing was undertaken to establish an infiltration rate for the drainage design. [CD 9-11]
- 3.4. Winter groundwater monitoring is required to ensure that an unsaturated zone of a minimum of one metre depth is retained beneath proposed infiltration structures, to ensure

- sufficient hydraulic and treatment capacity of those structures is realised (CIRIA C753, The SuDS Manual – Section 8.3). Winter groundwater monitoring had not been undertaken.
- 3.5. The results of infiltration testing and winter groundwater monitoring are critical for determining the sizes of infiltration structures, and therefore whether there is sufficient available space for infiltration structures within the layout of the proposed development. These results are therefore required as evidence of a suitable discharge location for surface water runoff from the proposed development prior to any planning approval.
- 3.6. As the strategy could not be confirmed as appropriate at the time of the consultation response, an objection was made by the LLFA and other general requirements of the LLFA set out that may have been subject to change if the drainage strategy was significantly revised from the original proposals.

#### **4. Revised Surface Water Drainage Proposals**

- 4.1. A revised drainage strategy (114290/SWL/01, 11/7/23) was provided to the LLFA on 21/7/23, seeking a discharge of surface water runoff from the site to the foul sewer [CD 2-15].
- 4.2. Further infiltration testing had been undertaken, with suitable rates for infiltration found in some parts of the site but not others. A strategy relying on soakaways had been drawn up and subsequently discounted as the emptying time was not quick enough during the design storm events. The proposal for two large soakaways may have contributed to the poor results, where more numerous smaller soakaways with a better surface area to volume ratio may have shown improved results. Groundwater levels were not confirmed however, so any infiltration or partial infiltration strategy would require further evidence prior to planning approval.
- 4.3. The proposal for a connection to the foul sewer was deemed necessary by the applicant as infiltration would not be viable and there was no known watercourse or surface water sewer available as a discharge location for the site runoff.
- 4.4. The water company had been contacted and initially stated that there was no capacity in the foul sewer for surface water flows. Further correspondence shows that the water company would possibly be obliged to upgrade their infrastructure to allow for the proposed pumped flows of 2.0 l/s from the site into the public network, which requires developer contributions and the securing of planning permission. Upgrades to the sewer network would only be considered by the water company once planning approval has been given, and could take 24 months to implement.

#### **5. LLFA Review of the Revised Proposals**

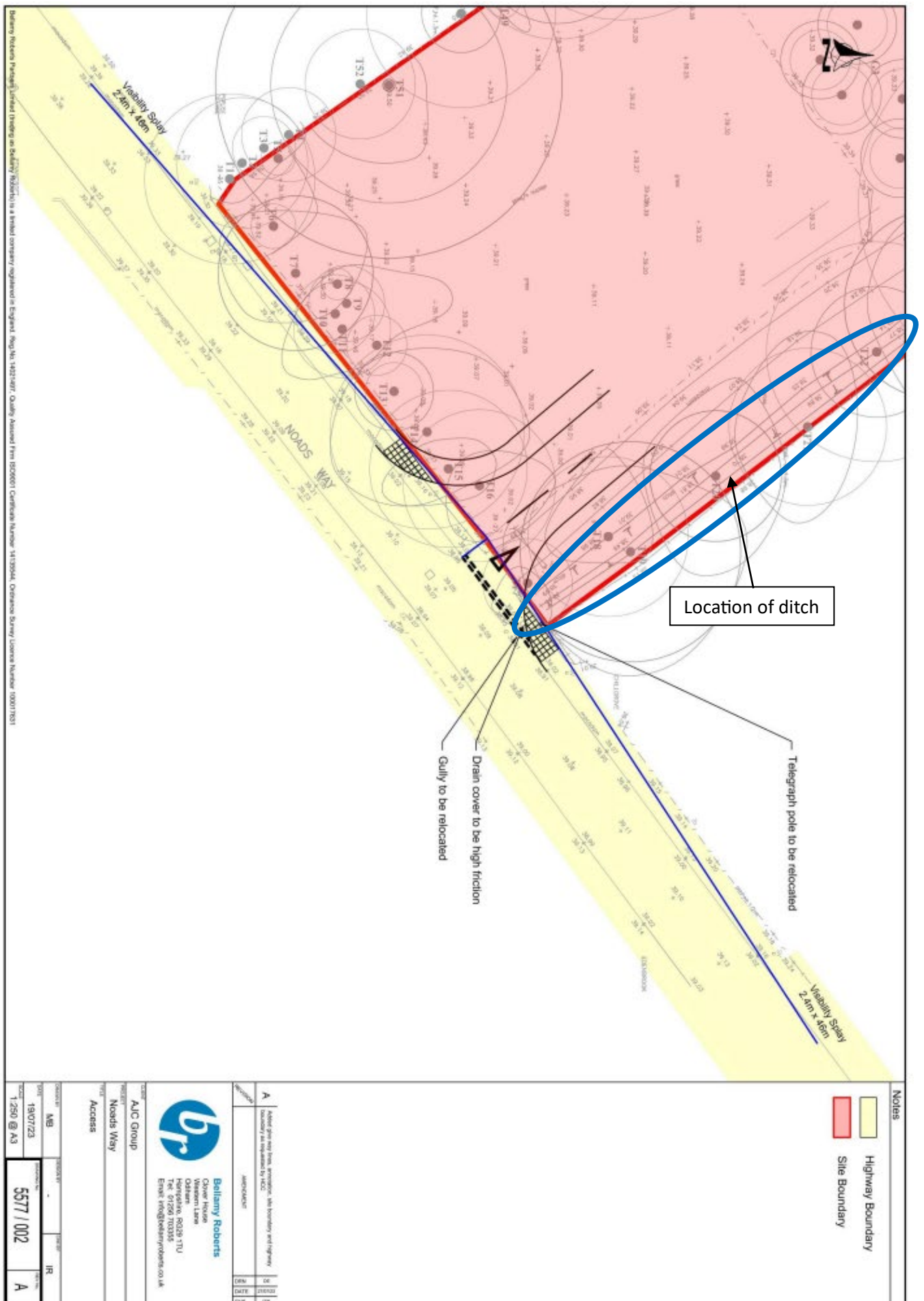
- 5.1. The LLFA considered that the main issue at this site was the choice of discharge location being the foul sewer, which is the least sustainable discharge location as described by The Building Regulations 2010, Planning Practice Guidance and CIRIA C753 The SuDS Manual (Appendix C). Water companies may have flood risk concerns regarding the extra loading to the sewerage infrastructure, including combined sewer overflows and treatment works.
- 5.2. Paragraph: 056 Reference ID: 7-056-20220825 of the Planning Practice Guidance states: 'Where possible, preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the following hierarchy of drainage options:
1. into the ground (infiltration);
  2. to a surface water body;
  3. to a surface water sewer, highway drain, or another drainage system;
  4. to a combined sewer.' [CD 7-2]

- 5.3. The foul sewer is specifically referred to in The SuDS Manual as an option that should not be considered for surface water drainage. Planning Practice Guidance refers only to a combined sewer rather than a foul sewer [CD 9-12].
- 5.4. The Building Regulations do not specifically refer to a type of sewer in the hierarchy but do refer to combined (rather than foul) sewers in Approved Document H, and separate surface water and foul drainage systems being preferred more generally. The drainage proposals for the site do rely on separated systems, it is the discharge location for both systems that is the same [CD 9-14].
- 5.5. The LLFA considered that the later infiltration test results should allow for infiltration drainage on the site, even if the whole site could not be drained by infiltration. This may allow for a reduced loading on the foul sewer if a connection was still required to drain the remainder of the site. Further information on peak groundwater levels would be required to support this strategy.
- 5.6. The LLFA suggested that the highway drainage system adjacent to the site in Noads Way should be investigated as a potential discharge location as it may rely on historic culverted land drainage. HCC Highways have since confirmed however that the piped system is in fact adopted and a connection from the site would probably not be permitted.
- 5.7. Correspondence relating to a Highways issue (Bellamy Roberts, ITR/557/sk, 4/8/23) was provided to the LPA and uploaded to the website on 7/8/23. This document included a drawing titled 'Access' (5577/002 A) showing the site boundary and highway boundary in relation to access details. The topographic survey can be seen on this drawing and shows a ditch feature within the eastern boundary of the site extending to the existing footway in the highway (Appendix A). Evidence of this ditch has also been found on a HCC highway adoption plan (Appendix B) – note that this ditch is not an adopted highway feature.
- 5.8. Many ditches and minor watercourses are not shown on mapping of any kind, therefore the LLFA will often trust a statement by an applicant that there are no watercourses available as a discharge location. However, if a discharge to a foul sewer is proposed, the LLFA will require further investigation into more sustainable discharge locations. This is because the water company may be relying on the LLFA being satisfied that all other options have been exhausted prior to giving approval for a connection to the foul sewer.

## **6. Conclusions**

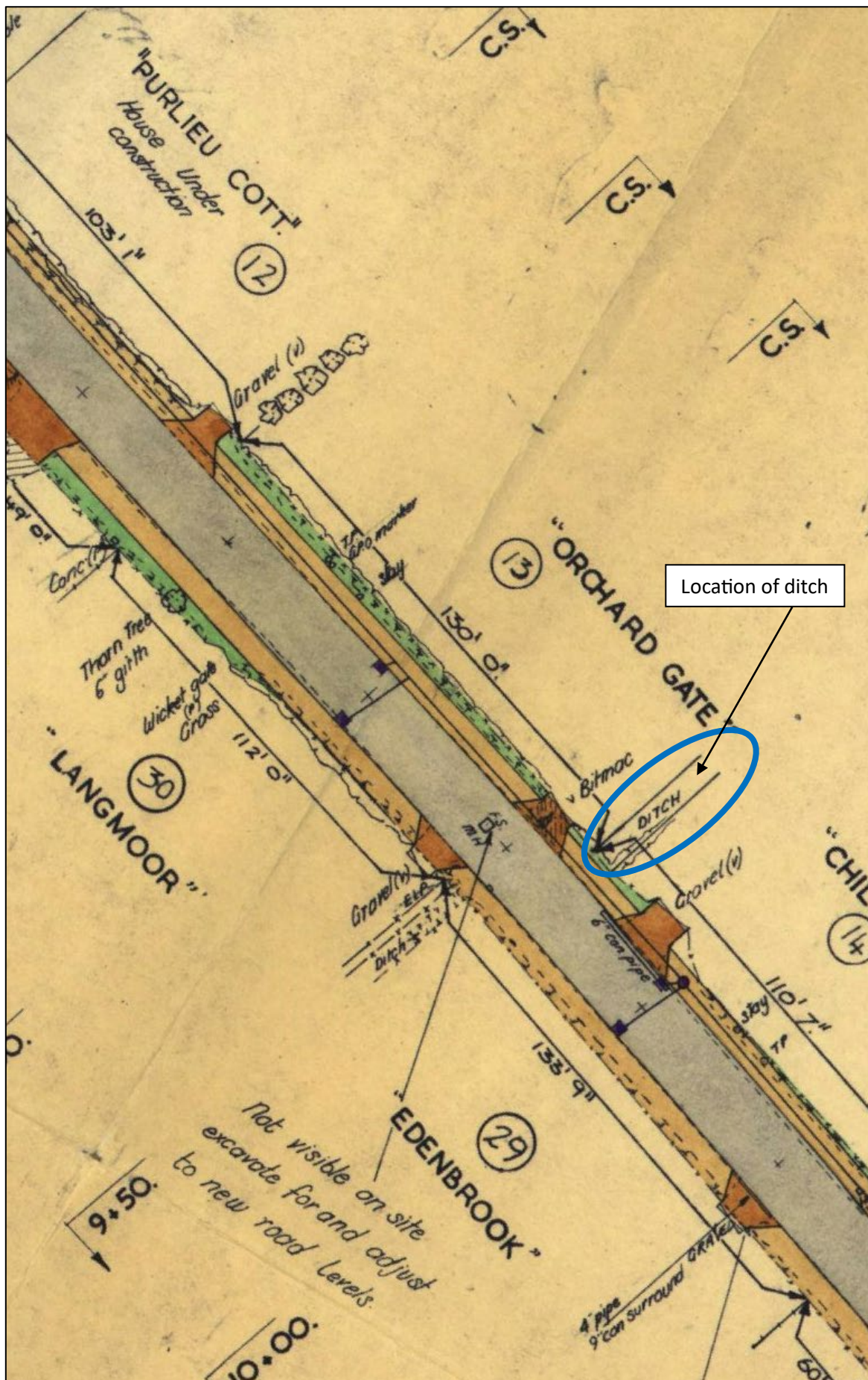
- 6.1. In summary, partial infiltration (if not full infiltration) may be possible on this site with suitably designed soakaways, subject to peak groundwater levels not rising to within one metre of the base of any proposed infiltration structures.
- 6.2. Should the infiltration proposal also rely on a connection to a foul sewer to fully drain the site, the LLFA would expect to see a strategy requiring attenuation and a restricted discharge into the watercourse instead of the sewer.
- 6.3. The whole site could also be drained at rates not exceeding greenfield runoff rates to a watercourse that exists within the site, a strategy that was not considered possible by the applicant in all previous correspondence. The LLFA would accept this as a drainage strategy if it is proposed by the applicant.
- 6.4. It is not anticipated that a connection to the foul sewer will be required to drain surface water runoff from the site.

## Appendix A – Access plan from Bellamy Roberts correspondence





Appendix B – Excerpt from Highway Adoption Plan for Noads Way, Dibden Purlieu



## Appendix C – Excerpts from best practice guidance

Planning Practice Guidance (<https://www.gov.uk/guidance/flood-risk-and-coastal-change#para56>)

### **What sort of sustainable drainage systems can be considered?**

The types of sustainable drainage system which it may be appropriate to consider, will depend on the proposed development and its location, as well as any planning policies and guidance that apply locally. Where possible, preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the following hierarchy of drainage options:

1. into the ground (infiltration);
2. to a surface water body;
3. to a surface water sewer, highway drain, or another drainage system;
4. to a combined sewer.

Particular types of sustainable drainage features may not be practicable or appropriate in some locations, such as the use of infiltration techniques from potentially polluting development in areas where groundwater provides a potable supply of water (e.g. [Groundwater Source Protection Zone 1](#)). Local planning authorities may find it helpful to set out those local situations where they anticipate particular sustainable drainage features:

- being inappropriate; or
- delivering the greatest benefits.

Local planning authorities may wish to encourage the incorporation of rainwater harvesting in sustainable drainage systems. Such systems are likely to be most appropriate for larger commercial or industrial applications and/or for development in areas with a current or likely future [Water Stressed Area Classification](#). Refer to [Water Efficiency Standards](#) and consider such features as part of a [Water Cycle Study](#).

Consideration of sustainable drainage systems early in the design process for development, including at the pre-application or master-planning stages, can lead to better integration, multi-functional benefits and reduced land-take.

Paragraph: 056 Reference ID: 7-056-20220825

Revision date: 25 08 2022

# **1 Prioritise where surface water runoff is discharged**

The destination for surface water runoff that is not collected for use should be prioritised in the following order:

- a infiltration
- b discharge to surface waters
- c discharge to a surface water sewer, highway drain or another drainage system
- d discharge to a combined sewer.

Discharge to a foul sewer should not be considered as a possible option.

As much of the runoff as possible (subject to technical or cost constraints) should be discharged to each destination before a lower priority destination is considered.

Depending on the site characteristics, drainage from different parts of the site could have different drainage destinations.

Depending on the quantity of runoff and the potential for a particular destination to manage that runoff, small events might be discharged to a higher level destination, while larger events may need to utilise a lower priority destination.

Where runoff is to be discharged to a sewerage undertaker's surface water sewer or combined sewer, the sewerage undertaker should be consulted as to whether any additional criteria or limiting discharge rates are required.

Where runoff is to be discharged to a watercourse, the relevant local flood authority should be consulted.

## The Building Regulations 2010 – Schedule 1

(<https://www.legislation.gov.uk/ukxi/2010/2214/schedule/1/made>)

### **Rainwater drainage**

**H3.**—(1) Adequate provision shall be made for rainwater to be carried from the roof of the building.

(2) Paved areas around the building shall be so constructed as to be adequately drained.

Requirement H3(2) applies only to paved areas—

- (a) which provide access to the building pursuant to requirement M1 (access and use), or requirement M2 (access to extensions to buildings other than dwellings);
- (b) which provide access to or from a place of storage pursuant to requirement H6(2) (solid waste storage); or
- (c) in any passage giving access to the

building, where this is intended to be used in common by the occupiers of one or more other buildings.

(3) Rainwater from a system provided pursuant to sub-paragraphs (1) or (2) shall discharge to one of the following, listed in order of priority—

Requirement H3(3) does not apply to the gathering of rainwater for reuse.

- (a) an adequate soakaway or some other adequate infiltration system; or, where that is not reasonably practicable,
- (b) a watercourse; or, where that is not reasonably practicable,
- (c) a sewer.