

Project:	Land South of Smugglers Lane, Barns Green, Horsham	Ref:	TSWC-0018-B-WN01
Subject:	Culvert Note	Date:	24-Sept-2025
Prepared by:	TS Wood	Rev:	-
On behalf of:	Miller Homes and Miller Developments	Date:	-

1.0 INTRODUCTION

- 1.1. TS Wood Consulting (TSWC) has prepared this Culvert Note (TN03) for the deculverting of the existing watercourse and retention (where possible) of the existing hedgerow, on behalf of Miller Homes and Miller Developments the 'Applicants'.

2.0 PROPOSALS

- 2.1. The proposed development includes works to an existing culverted watercourse that runs along the Chapel Road frontage of the site. At present, the watercourse is conveyed underground within a pipe (approximately 625 mm diameter) which collects flows from roadside drainage and adjacent land before discharging into the Muntham Gill to the south. This culverted arrangement limits hydraulic performance, complicates maintenance, and provides no ecological or visual benefit.
- 2.2. In accordance with national and local policy, and in particular the West Sussex Lead Local Flood Authority's (LLFA) preference for deculverting wherever reasonably practicable, it is proposed to open up this existing culvert and reinstate a naturalised open watercourse within the site boundary. This approach provides multiple benefits, including improved flood conveyance, easier long-term maintenance, enhanced biodiversity, and improved visual amenity.

3.0 THE DECULVERTING PROCESS

- 3.1. The process of deculverting will be undertaken in a controlled and phased manner to ensure continuity of drainage and protection of existing site features. Initially, the precise alignment and condition of the existing culvert will be confirmed using survey and CCTV records already undertaken as part of the Flood Risk Assessment. These surveys have verified the route of the culvert along the frontage and its connection into the downstream watercourse.
- 3.2. A new open channel will then be formed within land under the Applicant's control, running broadly parallel to the existing culvert alignment but designed to integrate with the proposed landscape strategy. The channel will be excavated to an appropriate profile and gradient to ensure positive drainage towards the Muntham Gill, with allowance for conveyance of flows equivalent to and exceeding the existing culvert capacity. The design will incorporate shallow side slopes, naturalised bed materials, and planting to provide both hydraulic efficiency and ecological enhancement.
- 3.3. Once the new channel is established, flows will be progressively diverted from the existing culvert into the open watercourse. This will be managed through temporary works to ensure that drainage is maintained at all times during construction and that no increased flood risk arises. Following successful diversion, sections of the culvert within the site will be removed where practicable, or alternatively capped/filled where removal is not feasible. Due to land ownership constraints, short lengths of culvert

upstream and downstream of the site (approximately 10 m upstream and 30 m downstream) will remain in place and continue to function as part of the wider drainage network.

4.0 HEDGEROW RETENTION

- 4.1. A key consideration in developing this approach has been the retention of the existing frontage hedgerow, particularly the southernmost section. The design of the new watercourse alignment has therefore been carefully coordinated with the landscape proposals and highway requirements to ensure that this section of hedgerow is retained in situ. Construction activities in this area will be controlled to protect the hedge root zone, including the use of protective fencing and appropriate stand-off distances during excavation works.
- 4.2. The deculverting works have been designed to sit comfortably alongside the retained hedgerow, ensuring that its structure and long-term health are not adversely affected. Where minor localised vegetation clearance is required to facilitate access or visibility, this will be limited to the minimum necessary and will not encroach upon the southernmost retained section.

5.0 SUMMARY

- 5.1. Overall, the proposed approach replaces an ageing culverted system with a more resilient and sustainable drainage feature. The new open watercourse will improve hydraulic performance, reduce the risk of blockage, and allow for straightforward inspection and maintenance, whilst also delivering environmental and landscape benefits in accordance with current planning and drainage policy. Critically, this is achieved without loss of the key southern hedgerow, ensuring that the scheme responds sensitively to both engineering and landscape considerations.