

# Gloucestershire County Council

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## Draft Culvert Policy

2012

# Document Status

## Amendment Record:

Revision	Description	Date	Signed
1	First full draft for consultation	November 2012	S. Humm / D. Graham

# Introduction

1. On 6<sup>th</sup> April 2012 Gloucestershire County Council (GCC) became responsible for issuing consents for ordinary watercourses under amendments to the Land Drainage Act 1991. Prior to this date responsibility was held by the Environment Agency (EA). This document has been adapted from the EA's Policy Regarding Culverts to provide our view on works to watercourses, with particular regard to culverts. It is intended for use by planning authorities, landowners and developers.
2. GCC considers it beneficial for watercourses to remain open wherever possible for both flood defence and environmental purposes. Culverting can worsen the risk of flooding, increase maintenance requirements and create difficulty in pollution detection. It destroys wildlife habitats, damages a natural amenity and interrupts the continuity of a watercourse.
3. In considering development proposals, GCC's objective is to retain open watercourses with a corridor of open land on both sides. This maintains a flood channel and creates a valuable environmental feature which can enhance the site and be easily maintained. Developers are encouraged to incorporate existing open watercourses, or create new ones, within their site design. Such features are of particular importance to wildlife by providing valuable open land in developed areas. Where possible, the removal of culverts will be encouraged to restore a more natural river environment. GCC and the local planning authorities will need to work closely to identify opportunities to restore a more natural river environment through the development process
4. Culverting will not be considered until other options have been thoroughly explored. However, it is understood there are cases where culverting may be unavoidable, such as short lengths for access purposes or where highways cross watercourses. In such cases the length involved should be restricted to a minimum, the hydraulic and environmental design assessed, and appropriate mitigating enhancements to the surrounding environment included.

## 2. Legal requirements

5. Without the consent of Gloucestershire County Council, under Section 23 of the Land Drainage act 1991, no person shall:
  - erect any mill dam, weir or other like obstruction to the flow of any ordinary watercourse or raise or otherwise alter any such obstruction; or
  - erect a culvert in an ordinary watercourse; or
  - alter a culvert in a manner that would be likely to affect the flow of an ordinary watercourse
6. Local Authorities in Gloucestershire may also set their own Byelaws under Section 66 of the Land Drainage Act 1991. These Byelaws will typically include consent being required for any works within a certain distance from a watercourse, and must be complied with. It is advised that the relevant District Council is contacted for further information.
7. For works affecting Main Rivers prior written consent is required from the EA under the Water Resources Act 1991 and Environment Agency Byelaws.

## **3. Enforcement on Works without consent**

8. If any of the above works are carried out without consent GCC has the power to serve notice on the person who carried out the work or the person having ability to remove the obstruction. If the notice is not complied with the person responsible may be subject to enforcement proceedings. GCC is also entitled to carry out necessary works to remove or alter the work and recover its expenses from the person who carried it out. That person may also be liable to prosecution under Local Authority Byelaws.

## **4. Gloucestershire County Council Policy**

9. GCC is in general opposed to the culverting of watercourses due to adverse ecological, flood defence and other effects likely to arise. An application to culvert a watercourse will only be approved if there is no reasonably practicable alternative or if the detrimental effects of culverting would be so minor that they would not justify a more costly alternative.

10. In all cases where it is appropriate to do so, adequate mitigation must be provided for damage caused. Wherever practical, GCC will seek to have culverted watercourses restored to open channels.

## **5. Reasons for the Policy**

### **5.1. Increased likelihood of flooding due to blockages**

11. Compared with an open channel there is an increased risk of blockage once a culvert is installed. Flooding is more likely to result from culverts once they become obstructed. If the blockage occurs within the culvert, there is much greater difficulty in removing it. For this reason many culverts have trash screens installed at their upstream end. These screens are themselves prone to blockage and require frequent clearance and emergency procedures to ensure they are not the cause of flooding.

12. It is sometimes argued that culverting will reduce the problem of open channels subject to litter and fly-tipping. Such short-term advantages are outweighed by the overall disadvantages, and alternative means should be pursued to address rubbish problems.

### **5.2. Loss of environmental features**

13. Culverting has a detrimental impact on the environment, resulting in a complete loss of features within a watercourse. The continuity of the river corridor is broken, adversely affecting the landscape and ecological value of the watercourse for migrating species. Any existing or potential amenity is also lost for present and future generations.

### **5.3. Increased impact of flooding**

14. The effect of the overland flooding that will occur when a culvert cannot cope with all the flow reaching it is often more severe than flooding from an open watercourse.

## **5.4. Loss of floodwater storage**

15. Open channels generally provide more storage capacity than a culvert. This disadvantage is more significant the longer the culvert.

## **5.5. Increased difficulties in providing for drainage connections**

16. Drain connections are more easily made to open watercourses where the performance of drainage systems can be visually monitored. Outfalls within culverts are prone to blockage or, in the case of flapped outfalls, can seize up. Maintenance of these outfalls is considerably easier in open channels.

## **5.6. Difficulties in the repair, maintenance and replacement of culverts**

17. Culverts conceal the presence of a watercourse and can lead to development or unacceptable land-use above or near them. In many urban areas buildings have been constructed above or adjacent to culverts. This means that improving standards of flood protection or accommodating run-off from future developments could be impossible or uneconomic due to the cost of replacing or enlarging existing culverts.

18. The responsibility for the condition and maintenance of a culvert lies with the landowner or the owner of the culvert unless other agreements are in place. The responsible party must therefore ensure that the culvert remains in good condition and free from obstructions as outlined in Section 25 of the Land Drainage Act 1991.

19. Access to culverts is generally safe only with the use of special procedures and equipment, making inspection and maintenance both difficult and costly.

## **5.7. Health and safety hazards**

20. There are dangers associated with natural open watercourses but culverted watercourses can be equally dangerous. Culverting does not remove the risk of drowning or injury. There have been many cases in past where children have died or suffered injury after entering culverts and they therefore represent a considerable safety hazard. Water levels can rise suddenly and without notice, and there can be a lack of oxygen or build-up of potentially toxic or explosive gases in culverts. All these hazards are a danger both to the public and to operatives when maintenance is required.

## **5.8. Effect on recharge to groundwater**

21. Culverting creates an impermeable bed to a watercourse and increases the speed of water flow, so reducing recharge to groundwater. This can be particularly significant in large developments or areas of permeable geology.

## **5.9. Pollution and effect on water quality**

22. Culverting a watercourse makes the early detection and tracing of pollution sources more difficult, resulting in the adverse impacts being more serious.

23. There is further impact on water quality due to the loss of the biological processes which are essential for river purification, and there is normally a reduction in oxygenation of water passing through a culvert. Culverting may also result in stagnant water problems, particularly if culvert levels are badly planned or constructed.

## 6. Consent Process

24. Landowners and developers should seek GCC's advice as early as possible on any proposal, allowing sufficient time before the intended start date.

25. Guidance notes and consent application forms are available on the website page <http://www.gloucestershire.gov.uk/article/108954/Land-drainage-consent>, along with details on how to apply and payment of the relevant fee.

26. On receipt of a complete and valid application GCC has a period of two months in which to determine it, and will aim to reach a decision as soon as possible within this timeframe. Identifying and resolving possible problems before plans reach an advanced stage will minimise costs to all parties and will reduce the time taken to determine the application.

27. Once the application has been determined, notification of approval or refusal will be sent in writing, along with a copy of the consent if applicable.