

North Somerset Levels Internal Drainage Board

Policy Regarding Culverts and the Culverting of Watercourses

1. Introduction

- 1.1 The purpose of this document is to set out the Policy of the North Somerset Levels Internal Drainage Board on the culverting of Viewed Rhynes and Ordinary Watercourses within its Drainage District. In March 1999 the Environment Agency issued a National Policy Statement on culverting. The North Somerset Levels Internal Drainage Board has generally adopted, and will normally apply, this Policy.

2. Reasons for the Policy

- 2.1 The Land Drainage Act 1994 and other legislation places both general and specific duties on Internal Drainage Boards relating to environmental and nature conservation matters.
- 2.2 Consequently, the North Somerset Levels Internal Drainage Board will, in general, be opposed to the culverting of watercourses within its Drainage District, because of the detrimental effects that may subsequently arise. Such effects may include:
- Loss of and adverse effect on environmental features and wildlife habitats;
 - Increased likelihood of local flooding due to culvert blockage;
 - Potential loss of floodwater storage capacity;
 - Increased maintenance liabilities, repair costs and possible ownership disputes;
 - Potential increased health and safety hazards.

3. Legal Requirements

- 3.1 The culverting of any watercourse, the alteration of any existing culvert, or the infilling of any watercourse, requires Land Drainage Consent. Within the District of an Internal Drainage Board, the Consent of the Board concerned is required, under Section 23 of the Land Drainage Act 1991.
- 3.2 In determining any application for Consent, the North Somerset Levels Internal Drainage Board will have regard, not only for the wishes of the applicant, but of its own environmental duties and responsibilities under statute.

[Note: Highway Authorities are required, under Section 339 of the Highways Act 1980, to seek the consent of the land drainage authority prior to carrying out any works affecting a watercourse or culvert.]

4. Application of the Policy

- 4.1 Watercourses fulfil many roles in today's environment. They provide a means of drainage for developed and agricultural land, are important features of the landscape and provide habitats for a wide variety of wildlife. It is therefore important that watercourses and their associated habitats are protected and enhanced for the benefit of present and future generations.
- 4.2 It is considered beneficial that watercourses should remain open wherever possible, both for flood defence and environmental purposes. Unnecessary culverting can exacerbate the risk of flooding and increase maintenance requirements. Culverting can also destroy wildlife habitats, damage natural amenities and interrupt the continuity of the linear habitat of a watercourse.

North Somerset Levels Internal Drainage Board

Policy Regarding Culverts and the Culverting of Watercourses (Continued)

- 4.3 It is equally important that where watercourses are to remain open, an adequate width of undeveloped land is retained adjacent to the channel for maintenance purposes, and for the continuity of the natural environment and wildlife habitats.
- 4.4 Nevertheless, it is recognised that in certain situations the use of culverts may, in practice, be unavoidable. Such situations include short length culverts for access purposes or where highways cross watercourses. In such cases, the length of the culvert should be restricted to the minimum necessary to meet the applicant's objective and, where appropriate, mitigating environmental enhancements included in the proposals. Where practicable, clear span bridges are always to be preferred.
- 4.5 Applicants must be able to demonstrate that they have considered alternatives, including costs, and show that appropriate facilities for future maintenance form a part of the proposals. Where the watercourse to be culverted is an Ordinary Watercourse, but not a 'Viewed Rhyne', the applicant must state in the application who will be legally responsible for future maintenance of the culvert and its headwalls.
- 4.6 Applicants should also be aware that Land Drainage Consents may be 'Conditioned' by the Board and that these Conditions may include the requirement for mitigation works to be undertaken.
- 4.7 A Land Drainage Consent does not override an adjacent landowners' rights nor does it permit interference with legally protected wildlife habitats.

5. Culvert Design and Construction Considerations

- 5.1 The minimum size for a culvert on a field ditch, or similar small watercourse, will be 450mm diameter (18inches), however there will be many locations where this is insufficient and, as small culverts are prone to blockage, in most cases culverts the Board will require culverts to be at least 450 - 600mm diameter (18 - 24inches). On Viewed Rhynes and other main watercourses, culverts of 900mm or 1200mm diameter (36inches or 48 inches) will normally be required.
- 5.2 The applicant shall, at the request of the Board's Engineer, provide hydraulic calculations to substantiate the size of proposed culverts, without reference to the size of existing culverts upstream or downstream. However, any proposed culvert shall, normally, be no smaller than any adjacent downstream culverts.
- 5.3 The following culvert sizes incorporate a freeboard allowance to reduce the risk of culvert blockage:

Calculated Diameter	Required Diameter	Comments
300mm	450mm	Minimum size Watercourse/Ditch
450mm	600mm	
600mm	750mm	
750mm	900mm	
900mm	1200mm	
1200mm or above		Consult Board's Engineer

North Somerset Levels Internal Drainage Board

Policy Regarding Culverts and the Culverting of Watercourses

(Continued)

- 5.4 Invert levels for culverts of 750mm diameter and less shall be set 150mm below the hard bed level of the watercourse, and for culverts of greater than 750mm diameter, shall be set 300mm below the hard bed level of the watercourse, unless otherwise instructed by the Board's Engineer.
- 5.5 Headwalls and wingwalls will normally be required and these shall be built into the watercourse bed and banks to prevent erosion. Construction should be in durable materials, appropriate to the location. Inlet and outlet screens may be required, depending on the location of the culvert and on public access in the vicinity.
- 5.6 The Board accepts no liability for the structural integrity, the future stability or the future maintenance of any works for which Consent may be given. These matters are the sole responsibility of the applicant and his technical advisers.

6. Environmental Considerations

- 6.1 Mitigation works to reduce the impact of the culvert on the local environment will be taken into account when determining applications for consent to culverting and these could include:
- Re-opening a previously culverted length of watercourse;
 - Enhancing an adjacent open channel with berms and planting native wetland species;
 - Creating a new pond or wetland nearby.

7. Other Matters

- 7.1 The issue of a Land Drainage Consent by the North Somerset Levels Internal Drainage Board does not absolve a person proposing to execute works from the need to obtain such other licences, consents or permissions which may be required by law.
- 7.2 If the consent or approval of a third party is required before the applicant is able to carry out any of the works proposed, documentary evidence of this consent or approval must be submitted with the application.
- 7.3 Reference should also be made to 'Guidance Notes for Applicants', 'Summary of Requirements for Small Pipe Outfalls' and 'Policy and Requirements for Environmental Mitigation'.

For further information and guidance in individual cases, please contact the Engineer to the Board.

North Somerset Levels Internal Drainage Board
The Cider House, The Grange Business Park,
Hewish, Weston-super-Mare, North Somerset BS24 6RR

Tel: 01934 833388
e.mail: the clerk@nslidb.org.uk
e.mail: admin@nslidb.org.co.uk