

Staying on the straight and narrow

New regulations on farm roadways and waters coming from 1 January

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Farm roadways are essential infrastructure on livestock farms. Dairy farms must pay particular attention to roads, due to the distance cows move to and from the parlour. Roads help farmers achieve high animal performance from pasture-based systems, by facilitating grassland/paddock management.

However, new Nitrates rules coming in from the 1 January 2021 state that: "There shall be no direct runoff of soiled water from farm roadways to water from 1 January 2021. The occupier of a holding shall comply with any specifications for farm roadways specified by the Minister for Agriculture, Food and the Marine, pursuant to this requirement."

The aim of the measure is to prevent runoff of sediment and nutrients from farm roadways to waters, thereby protecting and improving the water quality.

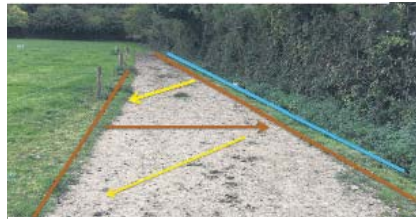
This applies to:

- All farmers who have farm roadways adjoining watercourses, rivers, drains, lakes, etc, as well as any features that can convey water (including features that may carry no water for part of the year).
- Farm roadways that are adjacent to or cross any watercourse, stream or

larger channel.

- All roadways used for cows, cattle, sheep, machinery and roadways on tillage farms.

So, what are the options to prevent direct discharge from farm roadways to waters?



Solutions

- Slope road to field.
- Remove clay on field side to allow flow off road.
- Use clay removed from field side to build up bund on waters side.
- Widen the roadway to create room for the clay bund.
- Fence to keep animals off the clay bund
- Facility to discharge trapped water onto field.
- If the roadway is relatively flat, creating a cross fall into the field should be done.

10 key points to consider:

1 Camber the roadway away from the stream/drain using a cross fall of 1:25. This diverts the runoff towards the field/paddock. (see Figure 1).

2 Existing farm roadways running beside a watercourse that are already fenced do not require the above buffer margin of 1.5m. A good

camber away from the watercourse is still required.

3 All new roads installed must be fenced 1.5m back from the top of the bank from watercourse/drain – more information on this is available on the DAFM website in Farm Roadway Specification S199.

4 For farm roads on slopes: "Divide and conquer" – install regular diversion ramps to divert the roadway run-off into the adjacent paddock/fields. This will have the effect of reducing the volume of runoff at the end of the roadway before it crosses the stream.

5 Where the land is higher than the roadway, it may be necessary to install a clay bund beside the roadway to protect the watercourse/drain running alongside the road.



Figure 1- Farm Roadway resurfaced with T.1 Struc. fill and dust to a 1:25 crossfall away from stream



ommended, in order to reduce the possibility of any sediment/nutrient entering watercourse/drain.

9 Engineered solutions – where the runoff cannot be prevented from heading to a stream/drain – it may be necessary to construct a clay-lined settlement/percolation area to collect the run-off, allowing the solids to be trapped and to discharge the remainder of the run-off via a percolation area.

Any nutrients that are in the run-off water entering the percolation area will be taken up by the grass plant, in a similar way to what happens in a septic tank percolation system.

This solution would involve detail design considerations and calculations with your agri-consultant.

10 A plan for all the roads on the farm needs to be put in place that may contain several of the options in this article including diversion ramps, re-cambering roads, clay banks/bunds and settlement areas.

Summary

The run-off issues from roadways differ greatly from farm to farm.

The variables are soil type, stream/drain density on the farm, rainfall levels, slope and topography, roadway condition, herd size, frequency of road use, machinery traffic and residency time of animals on the roadway, etc.

All of these variables must be taken into account when you are considering a solution to prevent run-off of sediment and nutrients into water.

The DAFM *Minimum specification for farm roadways (S.199)* gives details on how to comply with these new requirements and also provides the full specifications on the construction of a new roadway.

Farmers may need to employ the services of their agricultural advisor to assist in designing a workable long-term solution.

The run-off needs to be channelled to a point where it can be diverted away from the watercourse to a paddock.

6 In most instances, the edges of roads build up a natural clay bank/bund, which should be scraped along the edge of adjoining fields to let run-off go into the field, thus reducing the volume going towards watercourse/drain.

In some instances, when cleaning the edge of the road on the field side, this material could be used to create a clay bund between the road and the

waters.

7 Relocate the farm roadway – in some situations, the best solution may be to move the farm roadway away from the stream/drain.

This may sound like drastic action, but it can give rise to added benefits.

Apart from better protection of water, this could improve paddock access and enhance overall design of the paddock layout.

8 Moving paddock access more than 5m away from the watercourse/drain is also rec-

Three other water protection measures from 1 January 2021

There are other additional new requirements that derogation farmers and non-derogation farmers with a grassland stocking rate (GSR) over 170kg N/ha must comply with.

If you are a non-derogation farmer and exporting slurry to come below 170kg N/ha, or a tillage farmer with a small area of grassland and a high GSR, this also applies to you.

To work out your GSR, take the total N produced by your grazing animals in 2020 and divide by the 2020 grassland area.

Contact your Teagasc advisor or agri-

consultant for more information.

- Water troughs cannot be located within 20m of waters. This means that all water troughs on these 12,000+ farms have to be moved 20m away from waters by 1/1/2021.
- All farmers with a GSR over 170kg N/ha who have water troughs adjoining watercourses, rivers, drains, lakes or features that can convey water (including features that carry no water for part of the year) are affected by this.
- Bovines are to be excluded from watercourses* and drinking points re-

moved. These watercourses must be fenced 1.5m from the top of the bank by 1 January 2021. However, if these fences are already in place, then the existing fence will suffice.

- Livestock cannot cross through a watercourse* on a regular basis. A culvert/bridge construction will be required.

*A watercourse refers to one that is clearly marked on an ordnance survey 1:5000 scale map.

If you have any queries on these matters, talk to your Teagasc advisor/agri-consultant.