Derogation Training

WEST CORK AGRI SERVICES LTD
Owen O' Driscoll & Associates

ACA Agricultural Consultants Association

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Nitrates Review – Requirements for farms from January 1st 2021

1. Prevention of run-off from farm roads to waters
   - All farms
   - S.199 min Spec for Farm Roadways
2. Exclusion of bovines from watercourses
   - Preventing nutrient and sediment loss
   - Drinking points, crossings and fences along watercourses
3. Water troughs 20m + from watercourses

- Effective from 1st January 2021
- 2 &3 - For stocking rate >170kgs/ha
- Accounts for 12,350 farms and 1/3 of national bovine numbers

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DAFM Inspection Reports 2021

Is there evidence that surface waters are not fenced off to a minimum of 1.5m (5') from the top of the river bank or waters edge (applicable only to holdings with a GSR >170kg N ha)
Is there evidence that supplementary drinking points are located within 20m (65') of surface waters (applicable only to holdings with a GSR >170kg N ha)
Is there evidence of direct discharge of soiled water from farm roadways to waters

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What can we do to improve water quality?

Watercourses and drinking points • Fence off animals from waters – why? • No cattle access – Why? • No drinking points? • Buffer zones/Riparian zones? • Critical source areas? • What are the main issues – sediment/nutrients/bank damage? • Alternative supply/Cost/Rented Land?	**Farm Roads** • Slope away from waters • Bund between road and waters • Divert water on roads into fields • Sediment traps • Clay banks to prevent run-off • How often do cows defecate/urinate/day on roads?
Water Troughs • Issues are sediment and run-off? • How far away from waters? • What's carried in the sediment? • Solutions?	**Bridges/Culverts** • Why? • Benefits for cow? • Benefits for water quality? • Cost V's Return – what return?

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Terms	Whole Farm Stocking Rate (WFSR)	WFSR from grazing livestock (WFSR from GL) excluding N imports / exports	Grassland Stocking Rate (GSR) excluding N imports/ exports
Definition	Organic N produced by grazing livestock +/- N imports or exports ÷ holding area (grassland + arable).	Organic N produced by grazing livestock on the holding ÷ holding area (grassland + arable).	Organic N produced by grazing livestock on the holding ÷ grassland area
Fencing watercourses **Bovine exclusion** **Crossing points**			Applies where GSR > 170 kg N ha **Watercourses**
Setback water troughs			Applies where GSR > 170 kg N ha **Watercourses**
Farm roadways **Waters**	Applies to all farms	Applies to all farms	Applies to all farms

Watercourses = https:store.osi.ie/index.php/osi-place-map.html

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Definition of Watercourses and Waters

1. Watercourses = as displayed on this website https:store.osi.ie/index.php/osi-place-map.html
2. Waters = every watercourse, river, stream, dry drain, dyke, sheough, lakes etc. Anything can could convey water
3. All solid blue lines (thick and narrow). Need to zoom in and out as some of the narrow blue lines are very faint

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Section 1 – Farm Roads

1. Farm roadways for every farmer in the country regardless of stocking rate
2. For every farm, and farm road for livestock or machinery
3. Applies to roads beside waters (every drain and watercourse, lakes etc.)

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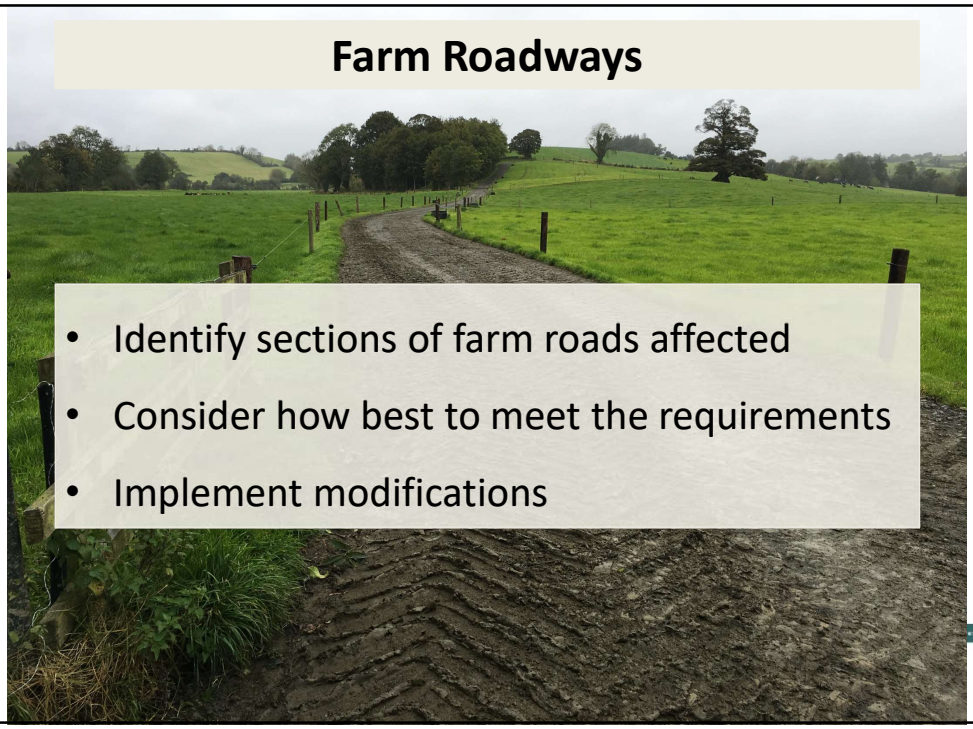
Farm Roadways



- Identify sections of farm roads affected
- Consider how best to meet the requirements
- Implement modifications

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Farm Roadways

Farmers are asked to:

- **Prevent sediment and nutrient runoff from farm roadways to waters**
- **Thereby protecting and improving water quality**

Source → Pathway → Receptor



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Farm Roadways Affected:

- ALL farms and ALL farm roadways adjoining any kind of drain/watercourse (Waters) even if dry for part of the year
- Includes all roadways used for cows, cattle, sheep, machinery and tillage farms
- Farm roadways that cross any drain/watercourse/river even if it is dry for part of the year
- This applies to all roads beside waters. Waters includes all rivers, watercourse, streams, dry drain, lakes, and anything that could convey water
- If the roadway is within 1.5m of the top of the bank of a **watercourse** there needs to fences on both sides of the roadway and the runoff directed away from the watercourse into the field

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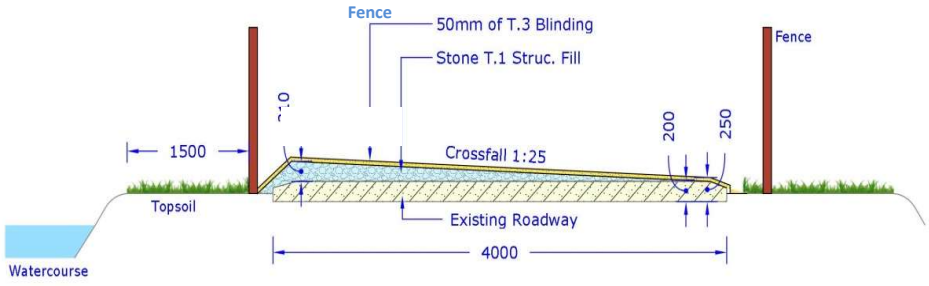
Existing Farm Roadways

- Existing fence is sufficient if beside **waters** as buffer margin of 1.5m **not** required however best practice would be at least 1.5m
- If the roadway is within 1.5m of the top of the bank of a **watercourse** there needs to be fences on both sides of the roadway and the runoff directed away/cambered away from the watercourse into the field. (Road does not need to be moved and the fence can remain where it is). There must also be an earthen bank between the roadway and the watercourse



Existing **farm road**, **fence** and **buffer margin**

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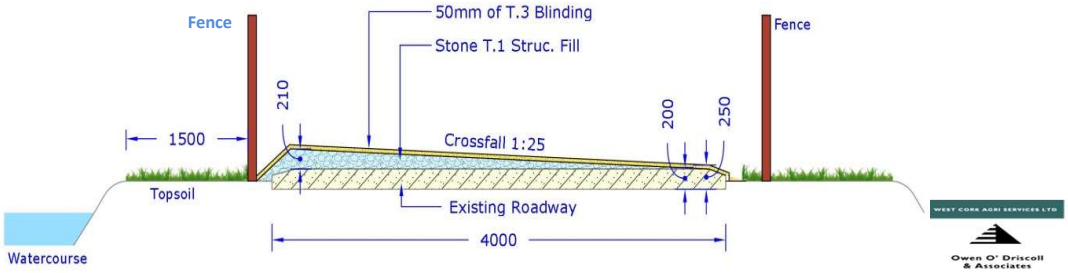
New Farm Roadways Adjacent to Waters

- Buffer margin of 1.5m required from top of bank **for all drains/watercourses**
- Road must be cambered away and requirements of measure met
- Fence erected to prevent livestock access on both sides of the new road
- Refer to DAFM Spec for farm roads – S 199



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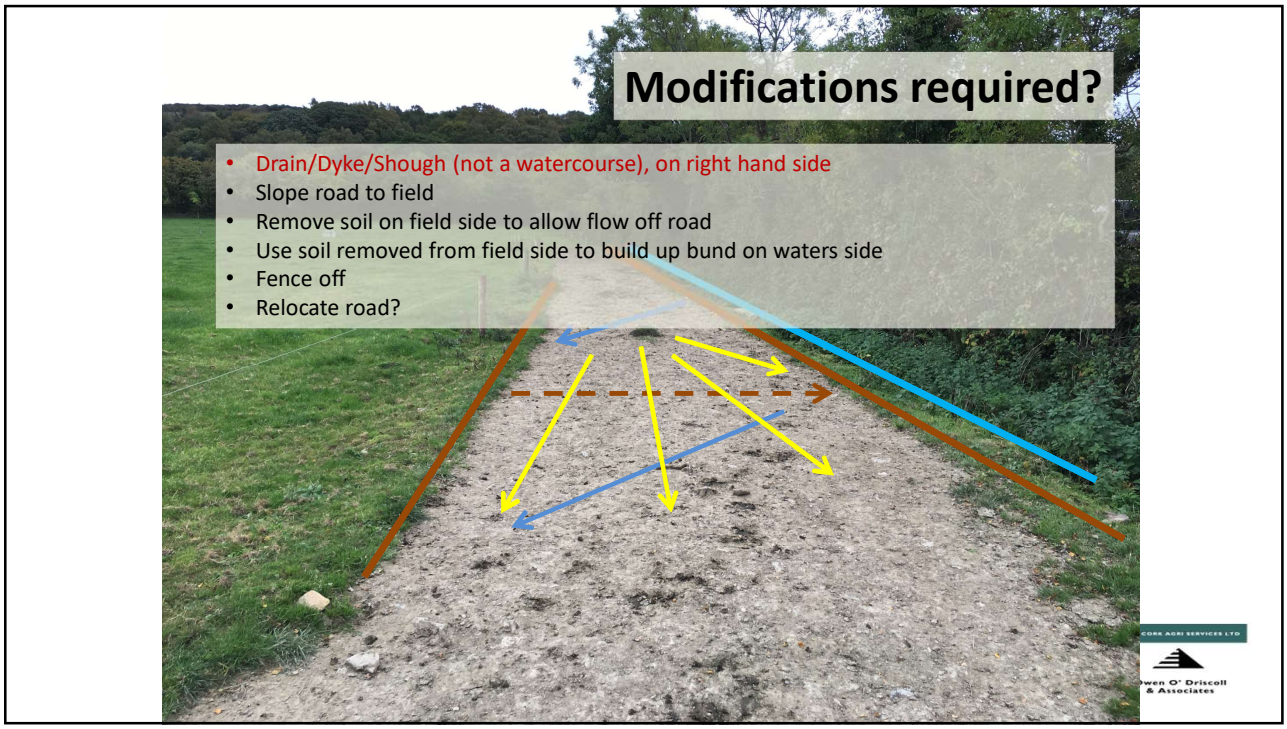
Modifications required?
• Drain/Dyke/Shough (not a watercourse), on right hand side
• Slope road to field
• Remove soil on field side to allow flow off road
• Use soil removed from field side to build up bund on waters side
• Fence off
• Relocate road?

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• Change Road
• Change Entrance
Milking Parlour
Google

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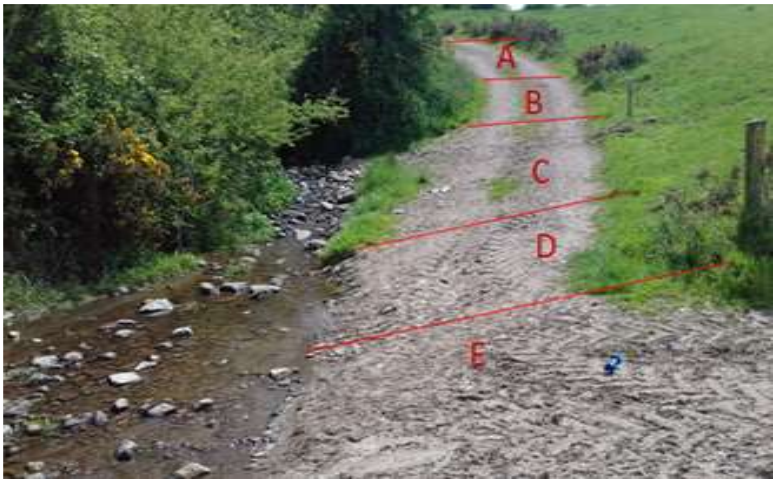
Farm Roadway Location and Potential Impact to Waters

Classify the different areas of this road



Very low Risk

Low Risk

High Risk

Very High Risk

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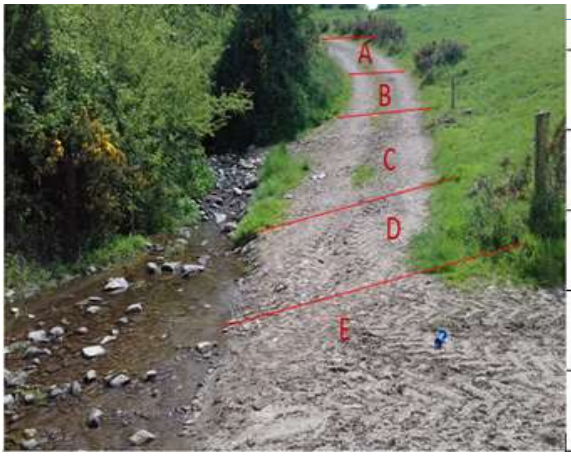
Farm Roadway Location and Potential Impact to Waters



Section	Classification
A	Very Low
B	Low
C	High
D	Very High
E	Very High

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Impacts of farm road
Elevation, Transverse and **Vertical Slope Surfaces**

	Above	Same level	Below
Elevation			

	Significant	Moderate	Gentle
Vertical slope			
Transverse slope			

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Farm roads with slopes

- '*Divide and conquer*' to prevent large volumes of water flowing down slope
- Install regular diversion ramps
- Divert runoff into field
- Will reduce volume and energy of run off at bottom of road way at stream
- Will help reduce damage to the road

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Q & A from DAFM on Farm Roads

https://assets.gov.ie/99153/ab347c89-9723-4397-9391-9d60d6e180b8.pdf

Prevention of direct discharge from farm roadways - Article 17.20

"There shall be no direct runoff of soiled water from farm roadways to waters from 1 January 2021. The occupier of such a holding shall comply with the minimum specification for farm roadways." (Current specification S199, July 2020).

Q. What are the minimum specifications for farm roadways?

A. The minimum requirements are outlined in Specification S199 which is available on DAFM website under 'Farm Buildings' webpage.

Q. What is the requirement for new roadways?

A. In the case of new roadways, a minimum buffer of 1.5m shall be kept between waters and the farm roadway and incorporating a fence 1.5m from the edge of waters. The new road shall be cambered towards the field. Fencing on the opposite side is also a requirement i.e. fencing both sides of the roadway is a requirement

Q. If there is a possibility of direct runoff of soiled water from a roadway to waters, what action is required?

A. In all cases where there is a possibility of direct runoff of soiled water from a roadway to waters, the relevant sections of roadway shall be cambered/oriented away from waters. This applies even where the roadway is currently flat (with no camber present). **Cambering is a prerequisite for compliance with the regulation (Article 17.20).** Additional options may subsequently be required so as to comply fully with the regulation.

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Q & A from DAFM on Farm Roads

https://assets.gov.ie/99153/ab347c89-9723-4397-9391-9d60d6e180b8.pdf

Q. What is required for compliance with the regulation (Article 17.20)?

A. Where a roadway needs to be adjusted to render it compliant with the regulation, cambering is a necessity in all cases. This may be sufficient on its own in some cases, but where not, additional options may need to be employed for compliance with the regulation; these options are detailed in the specification S199.

Q. Does run-off have to be directed to a soakaway (cross-fall of passageway is towards waters e.g. stream)?

A. Where the cross-fall of passageway is towards waters e.g. stream, the cross-fall must be altered to orient it away from waters. A soakaway is one of a number of options available to deal with soiled water in preventing it from entering waters directly from the roadway. In all cases, the cross-fall must be oriented away from waters.

Q. Where a roadway exists alongside waters (e.g. watercourse) is it ok to camber road away from waters and have the earthen bank between the road and waters with a fence erected at field side of roadway?

A. Yes, but only on the basis that the earthen bank is successful as a stock-proof barrier. If not, a fence is also required on this side of the roadway.

Q. Do existing roadways, running parallel with waters have to be repositioned to comply with 1.5m buffer rule?

A. No, however fencing on both sides of the roadway is a requirement.

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Section 2 – Bovine exclusion from watercourses

1. Bovine exclusion from watercourses
   - Where bovine livestock have direct access to water from the holding, a fence shall be placed at least 1.5m from the top of the riverbank or water's edge (as the case may be) by 1 January 2021. It will be permissible to move livestock across a watercourse to an isolated land parcel where necessary, provided that both sides of the watercourse are fenced.
2. Bovine exclusion from drinking points along watercourses
3. Crossing points through watercourses
4. For farmers with grassland-stocking rate > 170 Kg N/Ha in previous year



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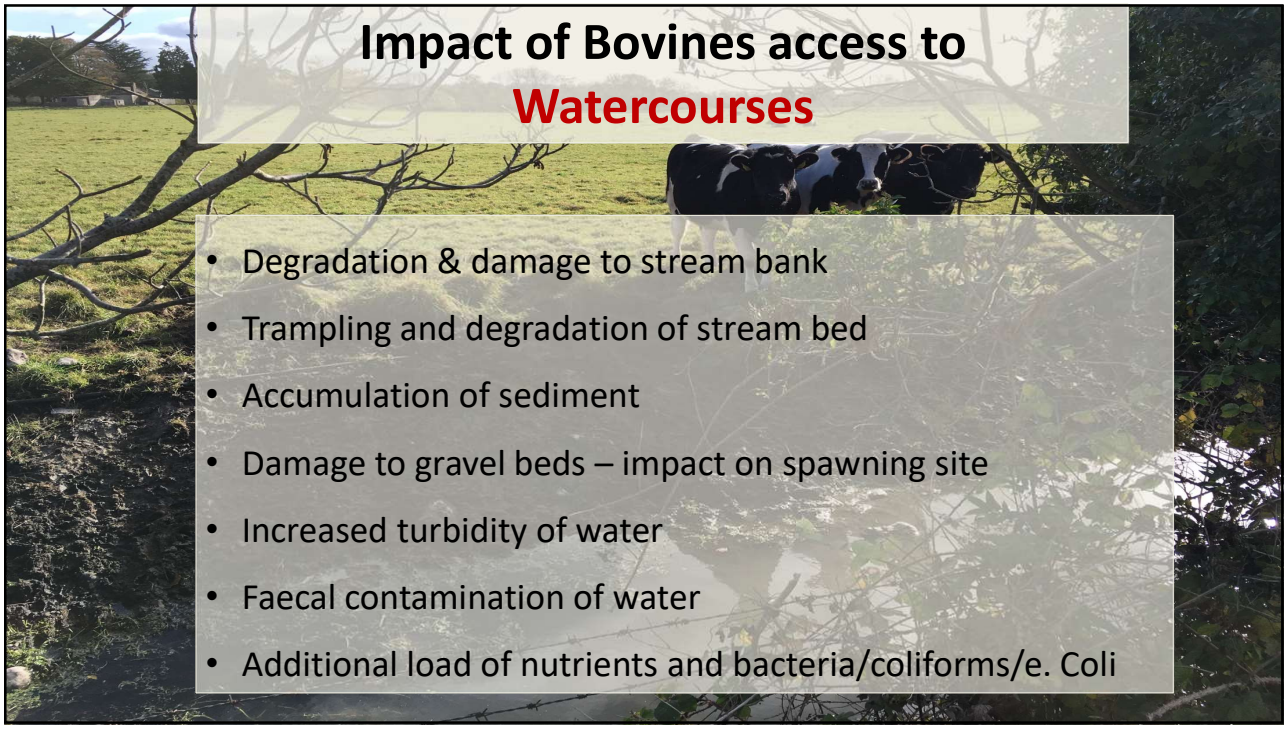

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Exclusion of Bovines from Watercourses

- Effective from 1 January 2021
- All fences at least 1.5m from top of drain/stream bank
- Existing fence will **not** suffice
- For farmers with grassland-stocking rate > 170 Kg N/Ha in previous year
- Proposal under Nitrates to bring farmers with lower SR into this rule
- Bridge/Culverts do not require 1.5m fencing – no direct access to watercourses

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Q & A from DAFM on Bovine Exclusion

The following is applicable to holdings with grassland stocking rates of ≥170kgs N/ha

Prevention of water pollution from direct discharge to watercourses.

Q. Is the grassland stocking rate after or before exports/imports have been accounted for?

A. It is the figure prior to adjustment for exports.

Q. For 2021, is it based on the predicted 2021 GSR or the actual previous years stocking rate.

A. It is based on the previous year's GSR, - 2020 SR in 2021.

Q. What is the definition of a watercourse for the purpose of the implementation of the new measures?

A. Watercourses identified on the 1:5000 scale OSi map will be the watercourses used for the implementation of this measure. Maps of these watercourses are available at www.osi.ie online store/professional products/land and property/place map/customise.

https: store.osi.ie/index.php/osi-place-map.html (Scale OSi 1:5,000). All continuous blue lines as identified need to be fenced in 2021.

Exclusion of bovines from watercourses (Article 17.18).

Where bovine livestock have direct access to water from the holding, a fence shall be placed at least 1.5m from the top of the riverbank or water's edge (as the case may be) by 1 January 2021. It will be permissible to move livestock across a watercourse to an isolated land parcel where necessary, provided that both sides of the watercourse are fenced.

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Q & A from DAFM on Bovine Exclusion

- **Q. What is the minimum requirement – permanent post and wire fencing or temporary stake and electric fence?**
  - A. Either is acceptable as long as it ensures bovines are excluded from the watercourse.
- **Q. Are watercourses on land rented by way of a one-year (conacre) agreement required to be fenced?**
  - A. Lands by way of one-year (conacre) agreements do not have to be permanently fenced but it does need to be temporarily fenced when being grazed by bovines.
- **Q. Does tillage land and grassland cut for hay/silage have to comply with this measure?**
  - A. This action is only applicable to parcels where bovines have access to watercourses associated with that parcel at any time during the calendar year.
- **Q. If an existing fence is less than the required 1.5m, does it need to be replaced?**
  - A. All fences must be at least 1.5m from the watercourse.
- **Q. If a natural boundary such as a hedgerow or stonewall exists along the watercourse is there a requirement to erect a fence?**
  - A. If a watercourse is already stock proofed with a hedgerow or stone wall to a distance of 1.5m from the edge of the watercourse, then there is no requirement for an additional fence.

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Crossing Watercourses/Streams

- Access to land parcel through a watercourse permitted
- Livestock not allowed unrestricted access when crossing watercourse
- Must be fenced both sides – no access up or down stream
- Close off access point once animals have moved across stream
- Requirement of the Good Agricultural Practice Regulations (SI 605 of 2017)
- Install bridge/culvert where possible

Q. Where a farmer has no other access to lands across a river, can access be allowed across the watercourse?

A. It will be permissible to move livestock across a watercourse to a land parcel where necessary, provided both sides of the access point are fenced to prevent bovine access up or down stream.

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Livestock Bridges for Crossing Watercourses

Supported on either side of the watercourse only.

- Bridges/culverts designed to take the **maximum** flood flows
- Should not allow for overtopping during flood events

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Rivers and Legislation

- It is an offence under the Fisheries Acts to disturb the bed or gravel of streams from mid-September to mid-May where fish may spawn or have already spawned.
- Contact should be made with Inland Fisheries Ireland (IFI)
- Earliest possible stage in the planning and design process where works such as road construction, installation of culverts and bridges, the crossing of rivers/streams with pipelines and works on and in the environs of waters are planned.
- Such consultation will enable those concerned to comply with the provisions of the Fisheries Acts and Habitats Regulations.
- Planning permission may also be required
- National Parks and Wildlife (NPWS) may also need to be contacted

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Cost & Return of installing a bridge

Cost €15,000

Return	**€**
Save 8 cases of lameness x €300 =	**2,400**
Crossing the river 79 days each year X 0.25 hour x 2 X €20 =	**790**
Total	**€3,190**

Return = 3,190/15,000 X 100 = 21%

Other benefits that could add to the return: getting to grass earlier, avoidance of day and night paddocks, ease of management etc.

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Divert or channel road runoff to field prior to connecting with bridge

How to minimise road run off at a bridge/culvert

- Create a cross fall
- Divert road runoff onto the field
- May need to create a settlement area (sediment trap) to prevent overland flow to stream
- After crossing a stream animals should only enter a paddock after a **6m buffer**
- New Roads and associated paddock entrances must be 6m from waters S199 DAFM

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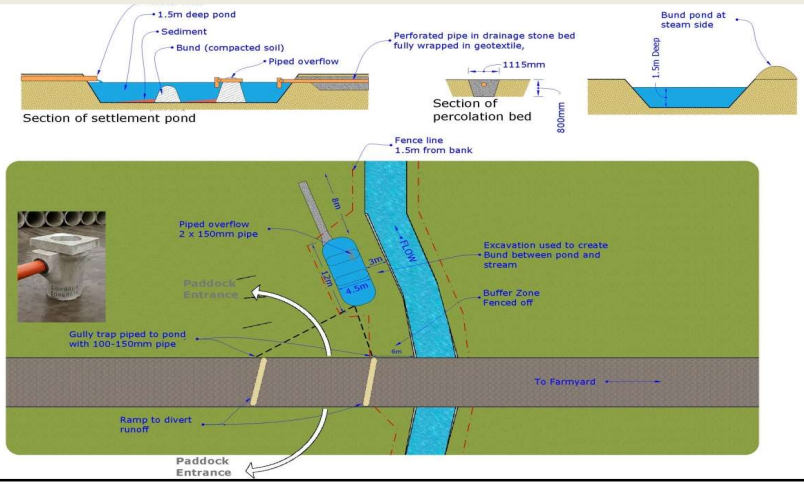
Settlement Areas

- Require fencing for safety
- Can be occasionally grazed or devoted to wildlife
- Provide access for cleaning by digger.
- Recommend professional design and installation



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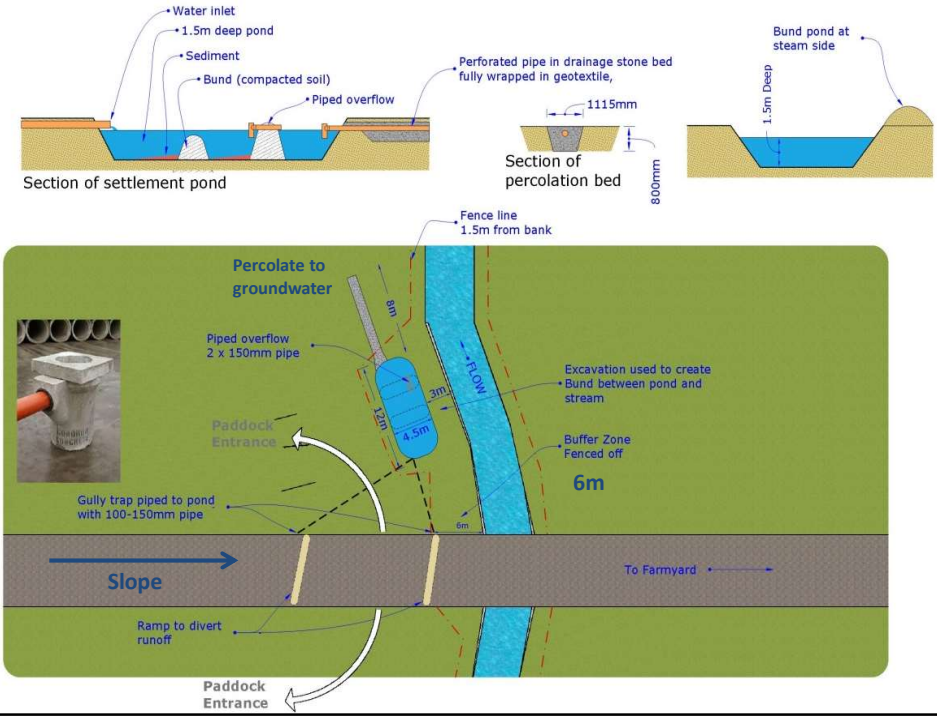

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Farm Roads Connected to Waters
Identify issues with Road & Bridge
What options does farmer have??

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Potential issues
Farm road run off to river
Farm road /bridge over river
Runoff directly into river

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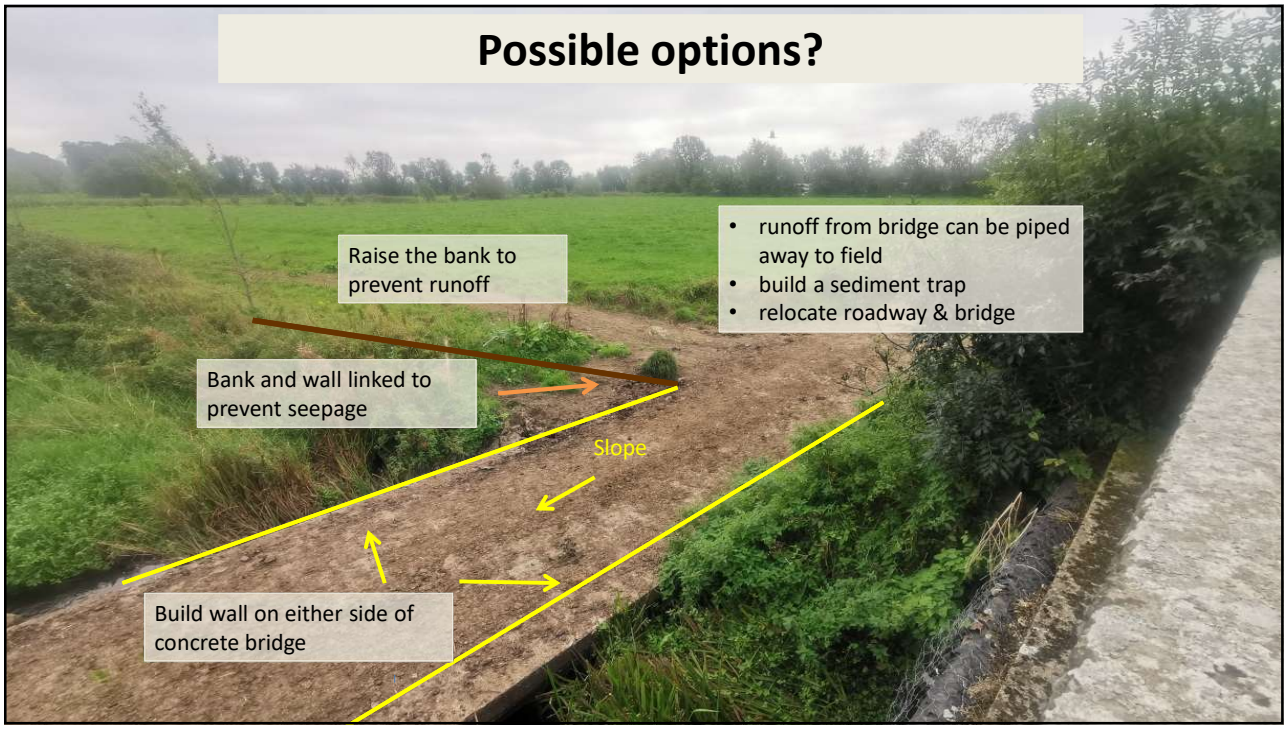
Possible options?
Raise the bank to prevent runoff
• runoff from bridge can be piped away to field
• build a sediment trap
• relocate roadway & bridge
Bank and wall linked to prevent seepage
Slope
Build wall on either side of concrete bridge

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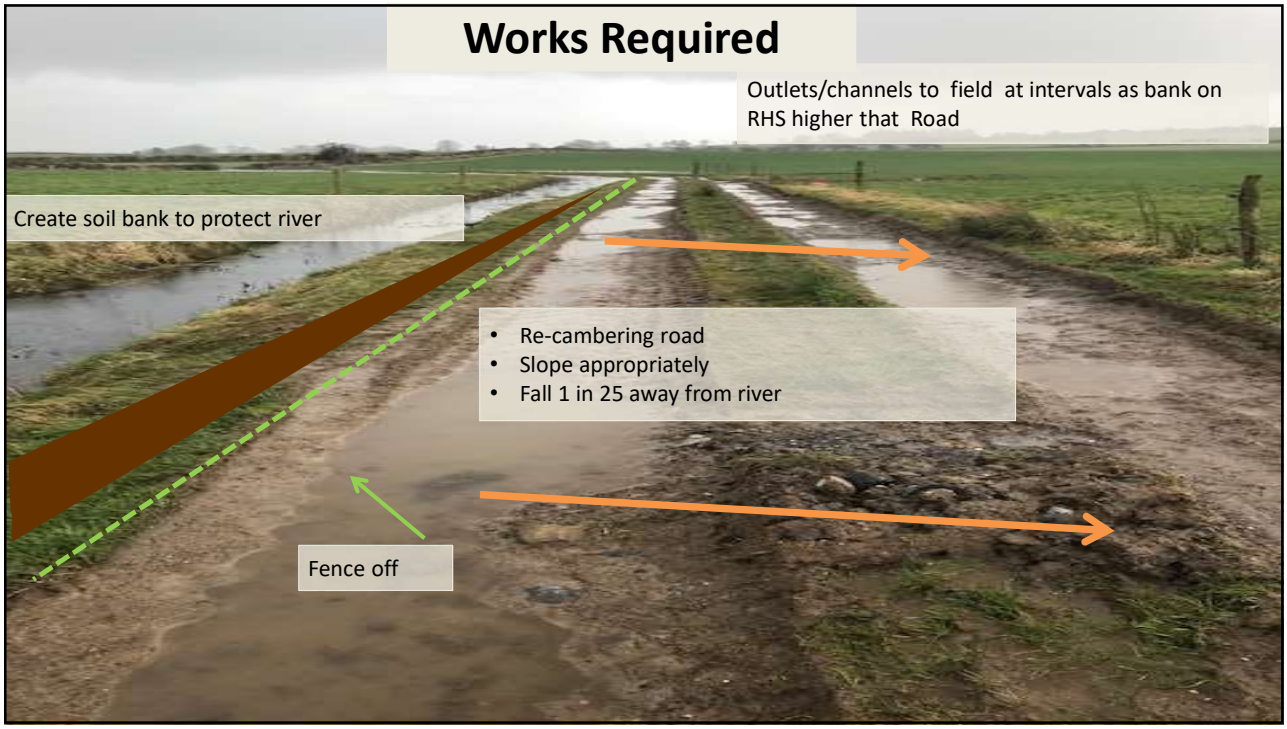
Works Required
Outlets/channels to field at intervals as bank on RHS higher that Road
Create soil bank to protect river
• Re-cambering road
• Slope appropriately
• Fall 1 in 25 away from river
Fence off

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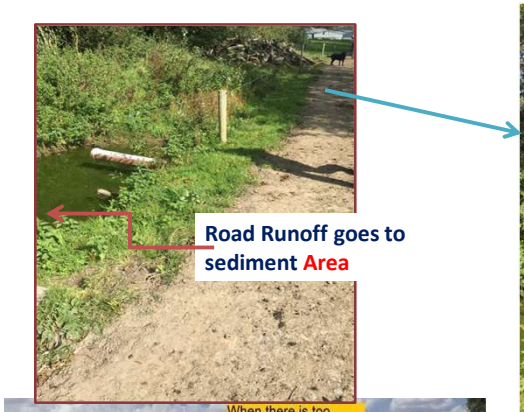

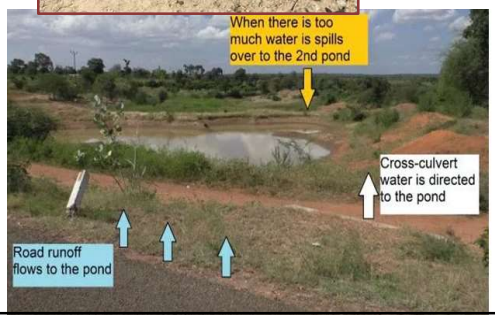

Sediment Area

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Roadway Repair

- Roadways should be repaired as necessary - possibly requiring some attention every year.
- Pay specific attention to the most used part of the roadway, especially the first 50-100 meters near the farmyard
- Purpose of roadway to move cattle to the paddock, it is not a collecting yard

It has been found that the greater the amount of time spent by cows in a particular area, the greater the number of defecations and urinations made by them in that area

Ongoing attention to drainage outlets, water diversion ramps/channels, filling potholes and adding extra surface material to rough areas.

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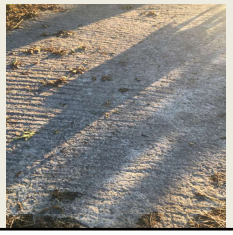
New Concrete Roadways

- **Concrete to be produced in a plant audited to I.S. EN 206-1: 2002 .It is not be produced on site**
- **No less than 125mm thick at any point designed to meet loading requirements.**
- **Maintain thickness under dished channels.Concrete is to be placed in alternate bays not more than 4.5m wide and 6.0m long where there is no fibre additive and not more than 8m long where there is fibre additive. In the case of mesh reinforced (A393) paving joint spacing can be extended to 12m by 8m.**

Finish may be either notched or brushed.Concrete roadways on farm can increase the incidence of lameness, due to a higher risk of loose gravel or pebbles (either sharp or round) lying on the roadway surface.



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Section 3 Water Troughs

Water Troughs – 20 m back from watercourses

- Effective from 1st January 2021
- Water troughs set back >20m from watercourses
- This is to prevent direct runoff to watercourses
- For Grassland stocking rate >170kgs N/Ha in previous year

Requires change of location

- Accounts for 12,350 farms and 1/3 of national bovine numbers
- This applies regardless of their being a farm road or any other barrier between the water trough and the watercourse
- Applies to derogation farmers & farmers who export slurry to remain under 170kgs N/Ha

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Q & A from DAFM on water Troughs

- **Q. How are surface waters identified?**
  - A. Surface waters for the purpose of this measure are watercourses identified on the 1:5000 scale OSi map will be the watercourses used for the implementation of this measure. Maps of these watercourses are available at www.osi.ie online store/professional products/land and property/place map/customise.
  - https: store.osi.ie/index.php/osi-place-map.htML (Scale OSi 1:5,000).
- **Q. Do drinking troughs have to be 20 m away from all watercourses?**
  - A. Yes, all water troughs must be 20m away from watercourses as identified from the OSi 1:5000 map.
- **Q. What if a parcel of land doesn't allow for a setback distance of 20m?**
  - A. The water trough should be located the furthest distance possible away from the watercourse

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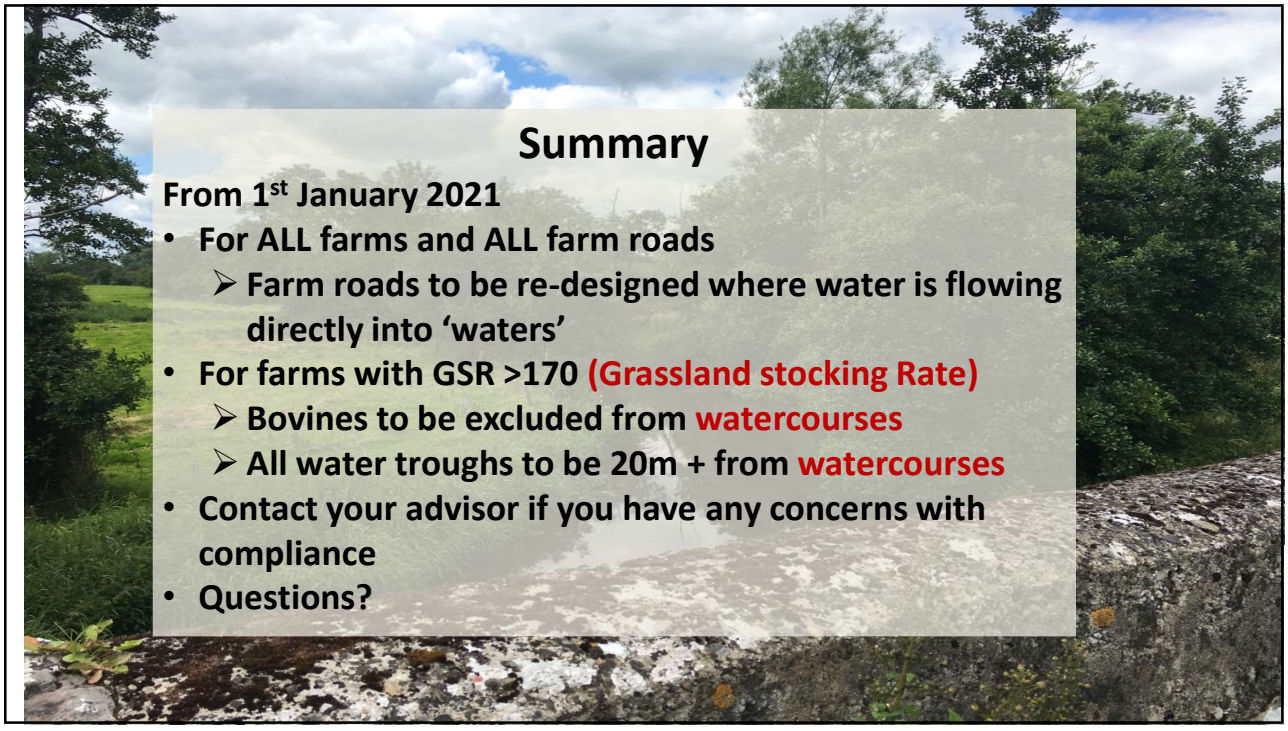

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