Technical Appendix 10.4: Schedule of Watercourse Crossings

Windburn Wind Farm

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01	2 June 2025	K. Rainford	G. Robb	G. Robb

Table of Contents

Tables in Text

1.0 Introduction

SLR Consulting Ltd (SLR) was commissioned by Windburn Wind Farm Limited to prepare a schedule of proposed new watercourse crossings which will be required to facilitate construction and operation of Windburn Wind Farm (the proposed development).

This Technical Appendix presents photographs and dimensions for each proposed watercourse crossing point. The report also details the likely form of the track crossing solution (e.g., culvert, arch culvert, or bridge). The final design of each crossing solution would be agreed with the Scottish Environment Protection Agency (SEPA) prior to construction as part of the detailed site design.

A survey of the proposed watercourse crossings was undertaken November 2023 by experienced SLR hydrologists.

The location of the watercourse crossings is shown in **Figure 10.1** of the EIA Report and details of the hydrological setting of the proposed development are outlined in **Chapter 10** of the EIA Report.

1.1 Relevant Legislation

The Water Framework Directive (2000/60/EC) (WFD) has been transposed into Scottish legislation as the Water Environment and Water Services (Scotland) Act 2003 (or WEWS) and has given Scottish ministers powers to introduce regulatory controls over activities in order to protect and improve Scotland's water environment. The water environment includes wetlands, rivers, lochs, transitional waters (estuaries), coastal waters and groundwater. These regulatory controls, known as the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) came into force in 2011 and have since been amended in 2013, 2017, and 2021.

With respect to watercourse crossings, CAR requires that all engineering works in inland surface waters and wetlands are subject to authorisation and allow for proportionate risk-based regulation which is outlined in the CAR Practical Guide (v9.4, July 2024). The authorisation process operates at three levels:

- General Binding Rules (GBR):
  - Minor crossings with no construction on bed or banks.
- Registration:
  - Bridges across rivers and lochs where no part of the structure encroaches on the bed (e.g., no piers or in-channel supports). In addition, the total length of the structures on both banks should not be more than 20m. This category includes bottomless arch culverts; and
  - Closed culverts used for single-track tracks, footpaths and/or cycle routes, where the affected river is not more than 2m wide.
- Licence (Simple/Complex):
  - All other bridges, fords or causeways; and
  - This category would include bridges affecting more than 20m total bank lengths, bridges with in-stream supports or closed culverts for crossings not specified above.

SEPA provide authorisation for watercourse crossings shown on the 1:50,000 scale Ordnance Survey (OS) maps (Landranger Series). All other watercourses are classed as "minor watercourse" and are exempt under CAR.

2.0 Watercourse Crossing Details

The proposed development has sought to utilise existing tracks and access routes where possible. However, two new watercourse crossings are required to facilitate the proposed development, details of which are included below.

Table 2-1: Watercourse Crossing 01

Watercourse Crossing ID	WX01
Watercourse Crossing Details	**Grid Reference:** E 288783 / N 701945 **Status:** New **Watercourse Width:** 0.5m **Watercourse Depth:** 0.1m **Notes:** Watercourse is located within a wider incised channel which is approximately 20m wide and 2m high.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisations	Culvert or Open Arch Culvert Registration

Table 2-2: Watercourse Crossing 02

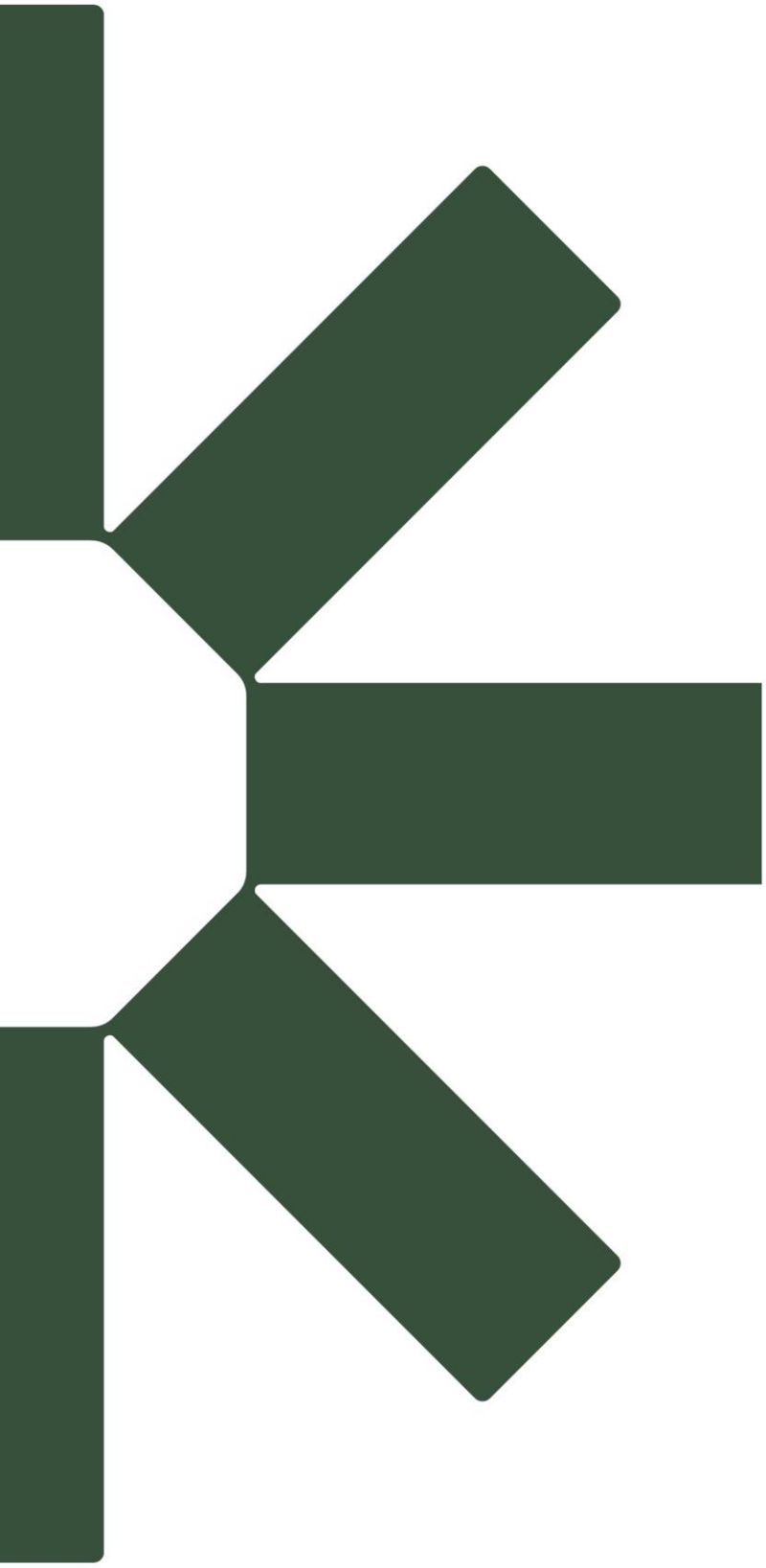
Watercourse Crossing ID	WX02
Watercourse Crossing Details	**Grid Reference:** E 288508 / N 701699 **Status:** New **Watercourse Width:** 1.5m to 2m **Watercourse Depth:** 0.7m **Notes:** Watercourse is located within a wider channel up to 1.2m deep and 15m wide.
Photograph Looking Upstream	
Photograph Looking Downstream	
Potential Crossing Type Likely Required CAR Authorisations	Culvert or Bottomless Arch Culvert Registration

3.0 Summary and Recommendations

Two new watercourse crossings are required to facilitate the proposed development, the location of which are shown on **Figure 10.1** of the EIA Report.

As stated in the EIA Report Chapter the crossings would be designed to pass the 200-yr flood event plus an allowance for climate change and their design and construction details would be agreed with SEPA, Perth and Kinross Council and Clackmannanshire Council as part of the final CEMP.

Good practice methods which will be adopted during construction and operation of the proposed development are outlined in **Chapter 10** of the EIA Report.



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