

VOLUME 4: APPENDIX V5-7.3: SCHEDULE OF WATERCOURSE CROSSINGS – ALTERNATIVE ALIGNMENT



Strathy South Wind Farm Grid Connection

Appendix V5-7.3: Schedule of Watercourse Crossings – Alternative Alignment

ASH design+assessment

Prepared by:

SLR Consulting Limited

No. 50 Stirling Business Centre, Wellgreen, Stirling,
FK8 2DZ

SLR Project No.: 428.013137.00001_0004

5 February 2025

Revision: Final

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
Final	5 February 2025	A. Searle	K. Rainford	G. Robb
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			
	Click to enter a date.			

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with ASH design+assessment (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



Table of Contents

Basis of Report	i
1.0 Introduction	1
1.1 Relevant Legislation	1
2.0 Watercourse Crossing Details.....	2



1.0 Introduction

This Appendix contains information relating to the proposed permanent and temporary watercourse crossings and existing watercourse crossings on tracks which are scheduled to be upgraded to enable construction of the Proposed Development with the Alternative Alignment.

Where access was possible, this report presents photographs and dimensions for each proposed crossing point. The final design of each crossing solution would be agreed with Scottish Environment Protection Agency (SEPA) prior to construction and be determined as part of the detailed site design.

The survey of the watercourse crossings was undertaken between April and September 2024 by experienced SLR hydrologists.

The location of the watercourse crossings is shown in **Volume 2: Figure V5-7.1**.

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 2003¹ (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 2011² (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 Guide³. 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.

The design, construction and/or improvements to the crossings would be agreed with SEPA prior to any construction works commencing in accordance with CAR as part of the detailed development design.

¹ Water Environment and Water Services (Scotland) Act 2003, available at <https://www.legislation.gov.uk/asp/2003/3/contents> [Accessed June 2024]

² Water Environment (Controlled Activities) (Scotland) Regulations 2011, available at <https://www.legislation.gov.uk/ssi/2011/209/contents/made> [Accessed June 2024]


³ SEPA (July 2024) The Water Environment (Controlled Activities) (Scotland) Regulations 2011. A Practical Guide v9.4, available at [car-a-practical-guide.docx](#) [Accessed December 2024]





2.0 Watercourse Crossing Details

Watercourse Crossing ID	WX01
Watercourse Crossing Details	NGR: NC 84360 62465 Status: New Temporary Crossing Watercourse Width: N/A Watercourse Depth: N/A Notes: No active watercourse recorded during survey. Evidence of peat excavation noted upstream of watercourse.
Photograph Looking Upstream	N/A
Photograph Looking Downstream	N/A




Watercourse Crossing ID	WX02
Watercourse Crossing Details	<p>NGR: NC 84827 62805</p> <p>Status: New Permanent Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Boggy ground with no obvious flowing water. This area is located in a channel which is up to 2 m wide and 1.5 m deep and incised in peat.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX03	
Watercourse Crossing Details	<p>NGR: NC 85514 64336</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Arch box culvert</p> <p>Crossing Dimensions: 0.5 m wide and 1 m tall</p> <p>Watercourse Width: 0.5 to 1 m</p> <p>Watercourse Depth: 0.2 m</p> <p>Notes: Watercourse incised in peat.</p>	
Photograph Looking Upstream		
Photograph Looking at Culvert Exit from Downstream		





Watercourse Crossing ID	WX04
Watercourse Crossing Details	<p>NGR: NC 86486 64399</p> <p>Status: Existing Crossing</p> <p>Watercourse Width: 0.4 m</p> <p>Watercourse Depth: 0.3 m</p> <p>Notes: Unable to access existing culvert due to vegetation cover.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	



Watercourse Crossing ID	WX05
Watercourse Crossing Details	<p>NGR: NC 86522 64636</p> <p>Status: New Permanent Crossing</p> <p>Watercourse Width: 0.4 m</p> <p>Watercourse Depth: 0.2 m</p> <p>Notes: Watercourse surveyed approximately 70 m downstream of the proposed crossing point. Watercourse located in a slightly deeper channel approximately 0.5 m deep.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX06
Watercourse Crossing Details	<p>NGR: NC 86706 64821</p> <p>Status: Existing Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: No watercourse or existing culvert recorded during survey. Potential buried drain / culvert.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX07
Watercourse Crossing Details	NGR: NC 86756 64824 Status: New Permanent Crossing Watercourse Width: N/A Watercourse Depth: N/A Notes: No watercourse recorded during survey. Potential buried drain or culvert.
Photograph Looking Upstream	N/A
Photograph Looking Downstream	N/A





Watercourse Crossing ID	WX08
Watercourse Crossing Details	<p>NGR: NC 87150 64860</p> <p>Status: New Permanent Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: No watercourse recorded during survey. Change in vegetation is noted to be approximately 1 m wide. Potential buried drain or culvert.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	



Watercourse Crossing ID	WX09
Watercourse Crossing Details	<p>NGR: NC 87674 63527</p> <p>Status: New Permanent Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: No active watercourse noted during survey, however, a waterlogged area up to 4m wide and 0.5m deep was witnessed.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	



Watercourse Crossing ID	WX10
Watercourse Crossing Details	<p>NGR: NC 88804 61979</p> <p>Status: Existing Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Waterlogged area with no active watercourse or flowing water. In a wider channel which is 1.5m wide and 1m deep downstream of crossing. No formal drainage features (culvert etc) noted.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	


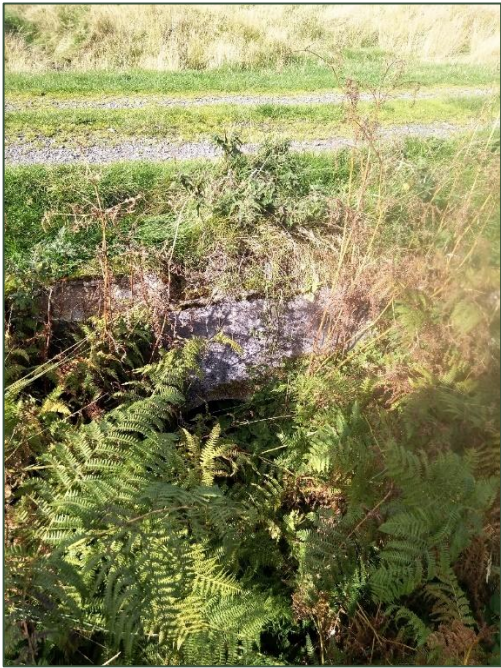


Watercourse Crossing ID	WX11
Watercourse Crossing Details	<p>NGR: NC 88959 62083</p> <p>Status: Existing Crossing</p> <p>Crossing Type: N/A</p> <p>Crossing Dimensions: N/A</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Downstream of WX10. Crossing location inaccessible during survey. Watercourse adjacent to track (downstream of proposed crossing point) is approximately 1.2 m wide and 0.2 m deep.</p>
Photograph Looking Upstream	Not surveyed.
Photograph Looking Downstream	Not surveyed.





Watercourse Crossing ID	WX12
Watercourse Crossing Details	<p>NGR: NC 88514 61534</p> <p>Status: New Permanent Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: No active watercourse. Channel extends to 0.4m wide and 0.5m deep. Small footbridge noted immediately downstream of crossing point with a 0.2m diameter corrugated metal circular pipe beneath.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX13
Watercourse Crossing Details	<p>NGR: NC 88753 61422</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Corrugated metal circular culvert.</p> <p>Crossing Dimensions: 0.5 m diameter.</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: No active watercourse recorded during survey. Culvert entrance and exit is heavily vegetated. Culvert is reinforced with stone headwall.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX14
Watercourse Crossing Details	<p>NGR: NC 88722 61385</p> <p>Status: Existing Crossing</p> <p>Watercourse Width: 0.5m</p> <p>Watercourse Depth: 0.2m</p> <p>Notes: Watercourse is located in a channel which is up to 2 m wide downstream of crossing point. No obvious watercourse upstream of the crossing point. No evidence of existing drainage at crossing location (culvert etc), however crossing point and upstream of crossing was overgrown during survey.</p>
Photograph Looking Upstream	
Photograph Looking at Crossing from Downstream	





Watercourse Crossing ID	WX15
Watercourse Crossing Details	<p>NGR: NC 88662 61252</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Corrugated metal circular culvert.</p> <p>Crossing Dimensions: 1.7 m diameter.</p> <p>Watercourse Width: 1.4 m</p> <p>Watercourse Depth: 0.3 m</p> <p>Notes: Channel upstream of culvert was overgrown. Culvert reinforced with stone headwall.</p>
Photograph Looking at Culvert Entrance from Upstream	
Photograph Looking at Culvert Exit from Downstream	





Watercourse Crossing ID	WX16
Watercourse Crossing Details	<p>NGR: NC 88603 61124</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Twin circular culvert.</p> <p>Crossing Dimensions: 0.8 m diameter.</p> <p>Watercourse Width: 0.1 m</p> <p>Watercourse Depth: 0.2 m</p> <p>Notes: Watercourse located in a channel which is up to 2 m wide. Culverts reinforced with a stone headwall.</p>
Photograph Looking at Culvert Entrance from Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX17
Watercourse Crossing Details	<p>NGR: NC 88464 60965</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Corrugated circular culvert.</p> <p>Crossing Dimensions: 1 m diameter.</p> <p>Watercourse Width: 1.5 m</p> <p>Watercourse Depth: 0.3 m</p> <p>Notes: None.</p>
Photograph Looking at Culvert Entrance from Upstream	
Photograph Looking at Culvert Exit from Downstream	





Watercourse Crossing ID	WX18
Watercourse Crossing Details	<p>NGR: NC 8845 760867</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Ford</p> <p>Watercourse Width: 2 m</p> <p>Watercourse Depth: 0.4 m</p> <p>Notes: Watercourse increases to approximately 6 m wide at crossing. Ford crossing is same width of existing track (approximately 3 m).</p>
Photograph Looking at Crossing from Upstream	 <p>A photograph showing a narrow, shallow watercourse flowing through a grassy field. The water is dark and reflects the sky. The banks are covered in green grass and some rocks. In the background, there are rolling hills under a blue sky with scattered white clouds.</p>
Photograph Looking at Crossing from Downstream	 <p>A photograph showing a watercourse flowing towards the viewer. The water is dark and reflects the sky. The banks are covered in green grass and some rocks. In the background, there are rolling hills under a clear blue sky. A fence line is visible on the left side of the image.</p>





Watercourse Crossing ID	WX19
Watercourse Crossing Details	<p>NGR: NC 88485 60719</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Corrugated circular culvert.</p> <p>Crossing Dimensions: 1.5 m diameter.</p> <p>Watercourse Width: 2 m</p> <p>Watercourse Depth: 0.4 m</p> <p>Notes: Watercourse slightly larger downstream of crossing compared to upstream and located in a channel which is up to 3 m wide and 1.5m deep.</p>
Photograph Looking at Culvert Entrance from Upstream	
Photograph Looking Downstream	



Watercourse Crossing ID	WX20
Watercourse Crossing Details	<p>NGR: NC 89116 61280</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Wooden bridge</p> <p>Crossing Dimensions: 1.5 m span</p> <p>Watercourse Width: 1 m to 1.5 m</p> <p>Watercourse Depth: 0.3 m to 0.4 m</p> <p>Notes: At time of survey watercourse had a very slow flow and is located in a channel which is up to 2 m wide and 1.5 m deep.</p>
Photograph Looking Upstream	 <p>A photograph showing a watercourse flowing through a grassy field. The water is visible in a narrow channel, surrounded by tall, dry grass. In the background, there are rolling green hills under a clear blue sky. A wooden fence is visible on the right side of the field.</p>
Photograph Looking Downstream	 <p>A photograph showing a watercourse flowing through a grassy field. The water is visible in a narrow channel, surrounded by tall, dry grass. In the background, there are rolling green hills under a clear blue sky. A wooden fence is visible on the right side of the field.</p>



Watercourse Crossing ID	WX21
Watercourse Crossing Details	<p>NGR: NC 89146 61257</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Wooden bridge</p> <p>Crossing Dimensions: 2 m span</p> <p>Watercourse Width: 1.5 m to 3 m</p> <p>Watercourse Depth: 0.3 m to 0.4 m</p> <p>Notes: Watercourse has a rocky bed and is located in a channel which is up to 3 m wide and 1 m deep.</p>
Photograph Looking at Crossing	 <p>A photograph showing a small wooden bridge crossing a watercourse. The bridge is made of dark wood and has a simple railing. The watercourse is surrounded by tall grass and reeds. In the background, there are rolling hills and a few buildings.</p>
Photograph Looking Downstream	 <p>A photograph showing a watercourse flowing through a grassy field. The water is dark and reflects the sky. The banks are covered in tall grass and reeds. In the background, there are rolling hills and a few buildings.</p>





Watercourse Crossing ID	WX22
Watercourse Crossing Details	<p>NGR: NC 89152 61008</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Corrugated pipe.</p> <p>Crossing Dimensions: 0.4m diameter.</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Watercourse recorded as dry during survey. Watercourse located in channel which is 1m deep and 0.8m wide.</p>
Photograph Looking at Culvert Entrance from Upstream	
Photograph Looking Downstream	





Watercourse Crossing ID	WX23
Watercourse Crossing Details	<p>NGR: NC 89277 60691</p> <p>Status: Existing Crossing</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Channel very overgrown. Watercourse and existing culvert was inaccessible during the survey. Watercourse located in a channel which is approximately 2m wide and 1.5m deep.</p>
Photograph Looking Upstream	
Photograph Looking Downstream	



Watercourse Crossing ID	WX24
Watercourse Crossing Details	<p>NGR: NC 89384 60262</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Ford (dry during survey).</p> <p>Watercourse Width: N/A</p> <p>Watercourse Depth: N/A</p> <p>Notes: Standing water noted upstream, but no flowing / active watercourse recorded during the survey. Watercourse located in a channel which is up to 1m wide and 0.3m deep.</p>
Photograph Looking at Crossing	
Photograph Looking Downstream	



Watercourse Crossing ID	WX25
Watercourse Crossing Details	<p>NGR: NC 89466 60054</p> <p>Status: Existing Crossing</p> <p>Crossing Type: Ford</p> <p>Watercourse Width: 0.2 m</p> <p>Watercourse Depth: 0.1 m</p> <p>Notes: Watercourse located in a channel which up to 2 m wide and 0.5 m deep. Channel is slightly narrower upstream of crossing point. Downstream of crossing point watercourse channel ill-defined.</p>
Photograph Looking at Crossing	
Photograph Looking Downstream	



Watercourse Crossing ID	WX26
Watercourse Crossing Details	<p>NGR: NC 90490 59622</p> <p>Status: New UGC Crossing</p> <p>Watercourse Width: 1 m</p> <p>Watercourse Depth: 0.5 m</p> <p>Notes: Watercourse surveyed approximately 50m downstream of the proposed UGC crossing. Watercourse incised in bedrock and located within a channel which is up to 15m wide and 5m deep.</p>
Photograph Looking Upstream	N/A
Photograph Looking Downstream	N/A

Watercourse Crossing ID	WX27
Watercourse Crossing Details	<p>NGR: NC 90509 59699</p> <p>Status: New UGC Crossing</p> <p>Watercourse Width: 1 m</p> <p>Watercourse Depth: 0.5 m</p> <p>Notes: Noted to be a man-made channel. Watercourse surveyed approximately 20m downstream of the proposed UGC cable crossing.</p>
Photograph Looking Upstream	N/A
Photograph Looking Downstream	N/A





Making Sustainability Happen