

Loch Kemp Storage - EIA Report

Appendix 17.2: Road Traffic Noise Calculations

November 2023

ash



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Revision	Date	Comments	SPECTRUM															
			DM yr1				DS yr1				DM yr10				DS yr10			
			18 hour AAWT	%HGVT	Speed (km/h)	BNL	18 hour AAWT	%HGVT	Speed (km/h)	BNL	18 hour AAWT	%HGVT	Speed (km/h)	BNL	18 hour AAWT	%HGVT	Speed (km/h)	BNL
	14.02.23	Using transport assessment traffic data - 2025 baseline then with development.																
	30.10.23	Using revised transport assessment traffic data - 2025 baseline then with development, alignment and consented developments.																
		Using revised transport assessment traffic data - 2025 baseline then with development and consented developments.																
Road Link Reference			DM yr1				DS yr1				DM yr10				DS yr10			
B852 Bailebeag (loc. 3)			349	20%	45	56.2	364	19%	45	56.3								
B862 at site access (loc. 6)			793	24%	45	60.4	1177	22%	45	60.2								
B862 east of Fort Augustus (loc. 7)			873	27%	45	61.2	970	24%	45	61.2								
A 82 west of Aberchalder (loc. 13)			3447	7%	70	65.7	3467	7%	70	65.7								
A82 south of Drumnadrochit (loc. 14)			4501	18%	70	68.7	4541	18%	70	68.7								

		No. of Moderate Magnitudes of Impact (as per DMRB)
Short term change (DS yr1 - DM yr1)		0
Long term change (without development) (DM yr10 - DM yr1)	0	0
Long term change (with development) (DS yr10 - DM yr1)	0	0

Notes:

- 18 hour BNL from CRTN Chart 3 formula
- Correction for speed and %HGVT as per CRTN Chart 4 formula
- If speed < 20km/h or > 130km/h, calculation assumes speed = 20km/h or 130km/h (not part of CRTN procedure - (speeds lower than 20km/h would be subject to rapidly increasing correction errors) - (speeds higher than 130km/h would likely be a result of screened/poor quality traffic data)
- If %HGVT > 100%, calculation assumes %HGVT = 100%
- Correction for low flow (1000 < Q < 4000) as per CRTN Chart 12 formula
- * indicates unreliable result where traffic flow Q < 1000 (no low flow correction applied, as per CRTN)
- Short term BNL changes of ≥ 3 highlighted in green
- Long term BNL changes of ≥ 5 highlighted in green

Revision	Date	Comments	SPECTRUM ACOUSTIC CONSULTANTS															
			DM yr1				DS yr1				DM yr10				DS yr10			
			18 hour AAWT	%HGV	Speed (km/h)	BNL	18 hour AAWT	%HGV	Speed (km/h)	BNL	18 hour AAWT	%HGV	Speed (km/h)	BNL	18 hour AAWT	%HGV	Speed (km/h)	BNL
	14.02.23	Using transport assessment traffic data - 2025 baseline then with development and consented developments.																
	30.10.23	Using revised transport assessment traffic data - 2025 baseline then with development and consented developments.																
Road Link Reference			DM yr1				DS yr1				DM yr10				DS yr10			
B852 Bailebeag (loc. 3)			349	20%	45	*56.2	1184	22%	45	60.2								
B862 at site access (loc. 6)			793	24%	45	*60.4	1231	24%	45	60.8								
B862 east of Fort Augustus (loc. 7)			873	27%	45	*61.2	1024	26%	45	59.7								
A 82 west of Aberchalder (loc. 13)			3447	7%	70	65.7	3750	13%	70	67.2								
A82 south of Drumnadrochit (loc. 14)			4501	18%	70	68.7	4847	22%	70	69.5								

Show All

Traffic Data and BNL

BNL Changes

Select period:
 18 hour
 6 hour
 1 hour

Constants:
 Period: 18
 BNLConst: 29.1
 LowFlowMin: 1000
 LowFlowMax: 4000

	No. of Moderate Magnitudes of Impact (as per DMRB)
Short term change (DS yr1 - DM yr1)	0
Long term change (without development) (DM yr10 - DM yr1)	0
Long term change (with development) (DS yr10 - DM yr1)	0

Notes:
 18 hour BNL from CRTN Chart 3 formula
 Correction for speed and %HGV as per CRTN Chart 4 formula
 If speed <20km/h or >130km/h, calculation assumes speed = 20km/h or 130km/h (not part of CRTN procedure)
 - (speeds lower than 20km/h would be subject to rapidly increasing correction errors)
 - (speeds higher than 130km/h would likely be a result of skewed/poor quality traffic data)
 If %HGV > 100%, calculation assumes %HGV = 100%
 Correction for low flow (1000 < Q < 4000) as per CRTN Chart 12 formula
 * indicates unreliable result where traffic flow Q < 1000 (no low flow correction applied, as per CRTN)
 Short term BNL changes of ≥ 3 highlighted in green
 Long term BNL changes of ≥ 5 highlighted in green