

## **Appendix A17.7: Additional Construction Noise Assessment**

### **1 Introduction**

- 1.1.1 As noted in Chapter 17 (Noise and Vibration), to facilitate accurate prediction of noise levels it is necessary to know working methods, timing and phasing of the works and the number and type of plant likely to be used. At this stage such information is not available. However, there are two locations (Pitlochry North Rail Underbridge and Dalshian Rail Bridge) where construction was considered to result in potentially Large adverse impacts due to the construction methods in these areas and possible night-time working. Accordingly, indicative details of likely construction equipment to be used at these areas have been provided and a more quantitative assessment of construction noise impacts have been undertaken.
- 1.1.2 It should be noted that given the level of information currently available these predictions of potential construction noise impacts should only be considered as indicative.
- 1.1.3 Section 6 (Noise Sensitive Receptors Closest to Construction Works) at the end of this appendix provides a list of all identified Noise Sensitive Receptors (NSR) within 100m of the land made available for construction (LMA).

#### **Legislative and Policy Background**

- 1.1.4 The assessment of potential construction noise impacts as a result of Pitlochry North Rail Underbridge and Dalshian Rail Bridge has been undertaken with reference to the following documents:
- Planning Advice Note (PAN) 1/2011 – Planning and Noise (The Scottish Government, 2011a);
  - Technical Advice Note (TAN): Assessment of Noise (The Scottish Government, 2011b);
  - BS 5228:2009+A1:2014 “Code of practice for noise and vibration control on construction and open sites” Part 1 – Noise (BSI, 2014).

### **2 Approach and Methods**

#### **Scope of Assessment and Criteria**

- 2.1.1 The construction noise assessment has been undertaken at two NSR; Faskally Cottage West which is located approximately 20m east of the proposed scheme at Pitlochry North Rail Underbridge, and Dalshian House which is located approximately 55m north of the proposed scheme at Dalshian Rail Bridge.
- 2.1.2 For the purposes of this assessment it is assumed that the majority of construction works will normally take place between 07:30 - 18:00 Monday to Friday and 08:00 to 13:00 on Saturday. However, some activities are expected to occur outwith these hours and as such, where applicable, an assessment of potential noise impacts during these periods was undertaken.
- 2.1.3 As noted in Chapter 17 (Noise and Vibration), BS 5228-1:2009+A1:2014 provides examples of criteria for the assessment of the potential significance of noise effects. Accordingly, ‘The ABC method’ detailed in BS 5228 has been adopted for the purposes of this assessment and is presented Table 1.

**Table 1: Example Threshold of Potential Significant Effect at Dwellings (Reproduced from BS 5228-1:2009+A1:2014)**

Assessment category and threshold value period	Threshold value, in decibels (dB) ( $L_{Aeq,T}$ )		
	Category A <sup>(A)</sup>	Category B <sup>(B)</sup>	Category C <sup>(C)</sup>
Night-time (23:00 – 07:00)	45	50	55
Evenings and weekends <sup>(D)</sup>	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75

**Note 1** A potential significant effect is indicated if the  $L_{Aeq,T}$  noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.

**Note 2** If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total  $L_{Aeq,T}$  noise level for the period increases by more than 3dB due to site noise.

**Note 3** Applied to residential receptors only

<sup>A</sup> Category A: threshold values to use when ambient noise levels (rounded to the nearest 5dB) are less than these values.  
<sup>B</sup> Category B: threshold values to use when ambient noise levels (rounded to the nearest 5dB) are the same as category A values.  
<sup>C</sup> Category C: threshold values to use when ambient noise levels (rounded to the nearest 5dB) are higher than category A values.  
<sup>D</sup> 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sundays

- 2.1.4 Furthermore, the adopted criteria in assessing qualitative construction noise impacts presented in paragraph 17.2.21 of Chapter 17 (Noise and Vibration). That is:
- construction noise 10dB below ambient noise level = Neutral;
  - construction noise between 10 to 0dB below ambient noise level = Slight adverse;
  - construction noise between 0 to 5dB above ambient noise level = Slight/Moderate adverse
  - construction noise between 5 to 10dB above ambient noise level = Moderate/Large adverse; and
  - construction noise greater than 10dB above ambient noise level = Large/Very Large adverse.

- 2.1.5 The ambient noise levels at each receptor have been derived from the day-time predicted  $L_{A10,18h}$  road traffic noise level in the Do-Minimum baseline year scenario at the receptor point corresponding to the highest level of construction noise using the TRL report 'Converting the UK traffic noise index  $L_{A10,18h}$  to EU noise indices for noise mapping'.

### **Assessment of Construction Noise Impacts**

#### Predicting Noise Levels – Noise Modelling

- 2.1.6 The construction noise levels were predicted using the CadnaA® noise modelling software, which predicts the  $L_{Aeq,T}$  construction noise levels at NSR, in accordance with BS 5228:2009+A1:2014.
- 2.1.7 Receptor points around both NSR have been modelled at 5m intervals, 1m from the façade, at the same locations as in the road traffic noise models.
- 2.1.8 The CadnaA® noise model inputs for existing topography, scheme topography, ground absorption and buildings are the same as described in Chapter 17 (Noise and Vibration), Section 17.2 (Approach and Methods).
- 2.1.9 At both locations there are expected to be three distinct construction phases:
- formation of earthworks (excavation and levelling);
  - formation of structure over railway line (structure formation); and

- creation and laying of pavement layers and associated street furniture (surfacing).

2.1.10 Table 2 provides an indication of the construction activities that are anticipated to be used during the various construction scenarios.

**Table 2: Assumed Construction Plant and Equipment**

Plant and Equipment	No. of plant	BS5228 Reference	% On Time	SPL @ 10m (dB(A))	SWL (dB(A))	Sound Pressure Level Octave Band Levels (dB)							
						63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
<b>Earthworks (Daytime)</b>													
Tracked excavator (40t)	3	C2.14	80	79	107	85	78	77	77	73	71	68	63
Wheeled excavator (18t)	2	C4.10	80	66	94	64	60	63	64	62	57	51	45
Tracked excavator (22t)	2	C2.3	80	78	106	80	83	76	73	72	70	69	66
Articulated dump truck tipping fill (23t)	10	C2.32	20	74	102	80	76	73	70	69	66	63	58
Tracked excavator (25t)	3	C2.19	80	77	106	95	84	79	73	70	68	64	57
Twin drum vibrating roller (8.9t)	8	C5.20	50	75	103	90	82	73	72	70	65	59	54
Diesel generator (15kW)	2	C4.86	80	65	94	78	71	66	62	59	55	56	49
Articulated dump truck drive by (23t)	10	C2.33	20	81	109	85	87	77	75	76	73	69	62
<b>Structure Formation (Daytime)</b>													
Tracked mobile crane (110t)	1	C3.28	40	67	95	81	77	66	62	59	57	51	46
Tracked excavator (25t)	1	C2.19	80	77	106	95	84	79	73	70	68	64	57
Concrete pump (59kW)	1	C3.25	50	78	106	84	76	70	71	73	73	66	58
Diesel generator (15kW)	2	C4.86	80	65	94	78	71	66	62	59	55	56	49
Articulated dump truck drive by (23t)	10	C2.33	20	81	109	85	87	77	75	76	73	69	62
<b>Structure Formation (Night-time)</b>													
Tracked mobile crane (110t)	1	C3.28	60	67	95	81	77	66	62	59	57	51	46
Tracked excavator (25t)	1	C2.19	60	77	106	95	84	79	73	70	68	64	57
Concrete pump (59kW)	1	C3.25	80	78	106	84	76	70	71	73	73	66	58

Plant and Equipment	No. of plant	BS5228 Reference	% On Time	SPL @ 10m (dB(A))	SWL (dB(A))	Sound Pressure Level Octave Band Levels (dB)							
						63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
Diesel generator (15kW)	2	C4.86	100	65	94	78	71	66	62	59	55	56	49
Articulated dump truck drive by (23t)	10	C2.33	20	81	109	85	87	77	75	76	73	69	62
<b>Surfacing (Daytime)</b>													
Road planer (17t)	2	C5.7	80	82	111	81	87	79	77	74	70	67	82
Wheeled excavator (18t)	2	C4.10	80	66	94	64	60	63	64	62	57	51	45
Wheeled backhoe loader (8t)	3	C4.66	80	69	97	72	63	67	67	63	62	56	50
Twin drum vibrating roller (4.5t)	2	C5.25	50	75	103	80	75	72	75	69	66	62	57
Twin drum vibrating roller (89t)	4	C5.20	50	75	103	90	82	73	72	70	65	59	54
Articulated dump truck tipping fill (23t)	2	C2.32	20	74	102	80	76	73	70	69	66	63	58
Bitumen spreader (11t)	4	C5.13	80	82	110	82	84	76	75	78	76	70	62
Diesel generator (15kW)	2	C4.86	80	65	94	78	71	66	62	59	55	56	49
Articulated dump truck drive by (23t)	10	C2.33	20	81	109	85	87	77	75	76	73	69	62

- 2.1.11 The noise level predictions take into account typical plant specification details, plant numbers, expected operating times of each plant, distance of plant to the receptors and topographical information between the plant and the receptors. The noise model assumes typical locations for activities working simultaneously.

Additional Modelling Assumptions at Pitlochry North Rail Underbridge

- 2.1.12 To provide a worst case assessment during the earthworks phase of construction at Pitlochry North Rail Underbridge, it has been assumed that the construction activity will occur within close vicinity to the nearest NSR, and that diesel generators (for lighting etc.) will be placed as far as practicable from the NSR. Finally, it is assumed that there will be a maximum of 10 drive-bys of articulated trucks in a one-hour period on the existing A9 southbound junction road adjacent to the railway crossing accessing the A924. To assess the potential impacts the noise impacts for this phase of construction the existing Do-Minimum topography has been used in the noise model.
- 2.1.13 For the construction of the railway overbridge structure, it has been assumed that work will begin with the placement of beams closest to the NSR and will move progressively backwards, and that diesel generators (for lighting etc.) will be placed behind the newly created earthworks of the proposed scheme, effectively shielding them from the NSR. During the daytime period it is assumed that there will be a maximum of 10 drive-bys of articulated trucks in a one-hour period and these will use the site access located to the western side of the proposed scheme to remove vehicles passing the NSR on the existing A9 southbound junction. As work during this construction phase will also potentially require night-time working it has been assumed that during the night time period there would be a maximum of 10 drive-bys of articulated trucks in a one-hour period. To assess the potential noise impacts for this phase of construction the proposed Do-Something topography has been used in the noise model.
- 2.1.14 The final phase of construction works involves the creation and laying of pavement layers and associated street furniture. To provide a worst case assessment during this phase of construction it has been assumed that construction activity will occur within close vicinity to the nearest NSR. It has been assumed that diesel generators (for lighting etc.) will be placed on the western side of the proposed scheme, furthest from the NSR. It has also been assumed that during the daytime period there will be a maximum of 10 drive-bys of articulated trucks in a one-hour period and these will use the site access located to the western side of the proposed scheme. To assess the potential noise impacts for this phase of construction the proposed Do-Something topography has been used in the noise model.

Additional Modelling Assumptions at Dalshian Rail Bridge

- 2.1.15 The same modelling assumptions for the construction at Pitlochry North Rail Underbridge have been assumed for the construction around Dalshian Rail Bridge. However, the drive-bys of articulated trucks have been assumed to use the existing A9 and Pitlochry South Junction.

### **3 Potential Impacts**

Pitlochry North Rail Underbridge

*Earthwork Construction Phase*

- 3.1.1 Using the assumptions stated previously, during the earthwork construction phase, the predicted maximum daytime construction noise level at Faskally Cottages is 68.9dB  $L_{Aeq,12h}$  at ground floor level.
- 3.1.2 The corresponding Do-Minimum baseline road traffic noise level is 57.3dB  $L_{A10,18h}$ . Using Method 3 of the TRL report 'Converting the UK traffic noise index  $L_{A10,18h}$  to EU noise indices for noise mapping', this equates to a daytime ambient noise level of 55.9dB  $L_{Aeq,12h}$ .
- 3.1.3 Accordingly, the difference between the predicted construction noise levels and the pre-existing ambient noise level is 13.0dB, which equates to a Large/Very Large adverse significance impact using the



adopted qualitative construction criteria. However, the ABC method detailed in BS 5228 states that a potential significant effect is indicated if the  $L_{Aeq,T}$  noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level. Based on the predicted ambient noise level at this location the appropriate category for assessing construction noise impacts is 65dB  $L_{Aeq,12h}$ .

- 3.1.4 Therefore, given that the predicted construction noise level is 3.9dB above the appropriate BS5228 ABC Method category limit and also 13.0dB above the predicted ambient noise level, it is considered that there will be potential significant impacts at the nearest NSR as a result of the earthwork construction phase.

*Structure Construction Phase*

- 3.1.5 Using the assumptions stated previously, during the structure construction phase, the predicted maximum daytime construction noise level at Faskally Cottages is 61.0dB  $L_{Aeq,12h}$  at ground floor level. The maximum predicted night-time level is 62.8dB  $L_{Aeq,8h}$  at first floor level.
- 3.1.6 The difference between the predicted daytime construction noise level and daytime ambient noise level is 5.1dB, which equates to a Moderate/Large adverse significance impact using the adopted qualitative construction criteria.
- 3.1.7 Accordingly, given that the predicted construction noise level is 4.0dB below the appropriate BS 5228 ABC Method category limit it is considered that there will be no potential significant impacts at the nearest NSR as a result of the structure construction phase during the daytime period.
- 3.1.8 The corresponding night-time ambient noise level at this location is 47.8dB  $L_{Aeq,8h}$ . Accordingly, the difference between the predicted night-time construction noise levels and the pre-existing ambient noise level is 15.0dB which equates to a Large/Very Large adverse significance impact using the adopted qualitative construction criteria.
- 3.1.9 In accordance with the ABC method detailed in BS 5228 the appropriate category for assessing construction noise impacts during the night-time period is 55dB  $L_{Aeq,8h}$ .
- 3.1.10 Therefore, given that the predicted construction noise level is 7.8dB above the appropriate category limit and also 15.0dB above the predicted ambient noise level it is considered that there will be potential significant impacts at the nearest NSR as a result of the structure construction phase during the night-time period.

*Surfacing Construction Phase*

- 3.1.11 Using the assumptions stated previously, during the surfacing construction phase, the predicted maximum daytime construction noise level at Faskally Cottages is 70.8dB  $L_{Aeq,12h}$  at ground floor level.
- 3.1.12 The difference between the predicted daytime construction noise level and daytime ambient noise level is 14.9dB, which equates to a Large/Very Large adverse significance impact using the adopted qualitative construction criteria.
- 3.1.13 Accordingly, given that the predicted construction noise level is 5.8dB above the appropriate BS5228 ABC Method category limit, and also 14.9dB above the predicted ambient noise level, it is considered that there will be potential significant impacts at the nearest NSR as a result of the surfacing construction phase during the daytime period.

Dalshian Rail Bridge

*Earthwork Construction Phase*

- 3.1.14 Using the assumptions stated previously, during the earthwork construction phase, the predicted maximum daytime construction noise level at Dalshian House is 59.8dB  $L_{Aeq,12h}$  at ground floor level.
- 3.1.15 The corresponding Do-Minimum baseline road traffic noise level is 56.8dB  $L_{A10,18h}$ . Using Method 3 of the TRL report 'Converting the UK traffic noise index  $L_{A10,18h}$  to EU noise indices for noise mapping', this equates to a daytime ambient noise level of 55.4dB  $L_{Aeq,12h}$ .
- 3.1.16 Accordingly, the difference between the predicted construction noise levels and the pre-existing ambient noise level is 4.4dB which equates to a significance of impact of Slight/Moderate Large adverse using the adopted qualitative construction criteria. However, the ABC method detailed in BS 5228 states that a potential significant effect is indicated if the  $L_{Aeq,T}$  noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level. Based on the predicted ambient noise level at this location the appropriate category for assessing construction noise impacts is 65 dB  $L_{Aeq,12h}$ .
- 3.1.17 Therefore, given that the predicted construction noise level is 5.2dB below the appropriate BS 5228 ABC Method category limit it is considered that there will be no potential significant impacts at the nearest NSR as a result of the earthwork construction phase.

*Structure Construction Phase*

- 3.1.18 Using the assumptions stated previously, during the structure construction phase, the predicted maximum daytime construction noise level at Dalshian House is 46.9dB  $L_{Aeq,12h}$  at ground floor level. The maximum predicted night-time level is 47.8dB  $L_{Aeq,8h}$  at first floor level.
- 3.1.19 The difference between the predicted daytime construction noise level and daytime ambient noise level is -8.5dB, which equates to a Slight adverse significance impact using the adopted qualitative construction criteria.
- 3.1.20 Accordingly, given that the predicted construction noise level is 18.1dB below the appropriate BS 5228 ABC Method category limit and also 8.5dB below the predicted ambient noise level it is considered that there will be no potential significant impacts at the nearest NSR as a result of the structure construction phase during the day-time period.
- 3.1.21 The corresponding night-time ambient noise level at this location is 47.3dB  $L_{Aeq,8h}$ . Accordingly, the difference between the predicted night-time construction noise levels and the pre-existing ambient noise level is -0.5dB which equates to a Slight adverse significance impact using the adopted qualitative construction criteria.
- 3.1.22 In accordance with the ABC method detailed in BS 5228, the appropriate category for assessing construction noise impacts during the night-time period is 45 dB  $L_{Aeq,8h}$ .
- 3.1.23 Therefore, given that the predicted construction noise level is 2.8dB above the appropriate category limit but 0.5dB below the predicted ambient noise level it is considered that there will be no potential significant impacts at the nearest NSR as a result of the structure construction phase during the night-time period.

*Surfacing Construction Phase*

- 3.1.24 Using the assumptions stated previously, during the surfacing construction phase, the predicted maximum daytime construction noise level at Dalshian House is 58.7dB  $L_{Aeq,12h}$  at ground floor level.



- 3.1.25 The difference between the predicted daytime construction noise level and daytime ambient noise level is 3.3dB, which equates to a Slight/Moderate adverse significance impact using the adopted qualitative construction criteria.
- 3.1.26 Accordingly, given that the predicted construction noise level is 6.3dB below the appropriate category limit it is considered that there will be no potential significant impacts at the nearest NSR as a result of the surfacing construction phase.

## **4 Mitigation**

- 4.1.1 Potential significant impacts due to construction noise are predicted to occur at the nearest NSR to Pitlochry North Rail Underbridge during all stages of construction work within the immediate vicinity of the NSR. As construction work moves away from these locations potentially significant impacts are anticipated to be reduced.
- 4.1.2 To reduce potentially significant construction noise impacts at these locations noise levels would need to be reduced by 5.8dB during the daytime period to bring predicted construction noise levels below the appropriate BS 5228 ABC Method category limit and 6.8dB during the night-time period.
- 4.1.3 No specific mitigation measures have been proposed as this assessment is only indicative and the working methods, timing and phasing of the works and the number and type of plant likely to be used may vary dependent on the contractor appointed to undertake the works. Accordingly, the contractor will require to undertake a construction noise impact assessment when working methods are known and produce an appropriate mitigation plan as per **Mitigation Item SMC-S1** detailed in Section 17.5 (Mitigation) of Chapter 17 (Noise and Vibration).
- 4.1.4 However, notwithstanding the construction mitigation measures provided in Section 17.5 (Mitigation) of Chapter 17 (Noise and Vibration) should be adopted to reduce potentially significant effects.
- 4.1.5 Where, following application of the mitigation measures and any Section 61 consents under the Control of Pollution Act 1974, noise levels are still expected to exceed the trigger levels defined in Annex E.4 of BS 5228, a scheme for the installation of noise insulation or the reasonable costs thereof, or a scheme to facilitate temporary rehousing of occupants, as appropriate, could be implemented.

## **5 Summary and Conclusions**

- 5.1.1 The potential construction noise impacts at NSR adjacent to Pitlochry North Rail Underbridge and Dalshian Rail Bridge have been predicted using CadnaA® noise modelling.
- 5.1.2 Potentially significant construction noise impacts could occur in the absence of mitigation during all phases of construction at Pitlochry North Rail Underbridge at the nearest NSR (Faskally Cottages). However, with appropriate mitigation measures it is anticipated that these impacts could be reduced to below the appropriate BS 5228 ABC method day and night-time period category limits. Should the level of noise reduction required not be practicable then the consideration of noise insulation or temporary rehousing as detailed in paragraph 4.5 could be implemented.
- 5.1.3 There are predicted to be no potential significant construction noise impacts at NSR in the vicinity of Dalshian Rail Bridge.

## **6 Noise Sensitive Receptors Closest to Construction Works**

- 6.1.1 As stated in Chapter 17 (Noise and Vibration), there are 78 NSR within 100m of the LMA for the proposed scheme that may have potentially significant construction noise impacts.
- 6.1.2 It should be appreciated that although these NSR have been highlighted they may not be subject to significant construction noise impacts as this will be dependent on the pre-existing ambient noise levels and the type of construction activity taking place in the vicinity of the NSR.

6.1.3 Table 3 provides a list of all identified NSR within 100m of the LMA.

**Table 3: NSR within 100m of the Land Made Available for Construction**

<b>RID</b>	<b>Address</b>	<b>Distance from LMA (m)</b>
R4.001	Westthugh Of Dalshian, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	53.8
R4.002	Littleton Of Fonab, Access Road Linking A9T To The C452 At Littleton Of Fonab, Pitlochry, Perth And Kinross, PH16 5NA	19.9
R4.003	Middleton Of Fonab Cottages, 3 Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	44.8
R4.007	East Lodge, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5JZ	38.5
R4.008	Gardens Cottage, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	64.1
R4.097	Pitlochry Festival Theatre, Theatre Workshop, Access Road At Pitlochry Theatre, Pitlochry, Perth And Kinross, PH16 5BF	70.4
R4.239	Pitlochry Festival Theatre, Pitlochry Festival Theatre, Access Road At Pitlochry Theatre, Pitlochry, Perth And Kinross, PH16 5DR	70.4
R4.436	Craighulan Cottage, 2 A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	27.4
R4.437	Craighulan Cottage, 1 A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	21.4
R4.439	Faskally Cottage West Lineside, A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	18.3
R4.440	Lineside Cottage, 1 A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	23.8
R4.441	Greengates, A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	24.2
R4.442	Greengates Cottage, 1 A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	30.8
R4.443	Greengates Cottage, 2 A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	36.6
R4.444	Railside House, A924 From The Junction Of The A9T North Of Pitlochry To Atholl Road Pitlochry, Pitlochry, Perth And Kinross, PH16 5JZ	34.5
R4.445	Mid Lodge, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	56.8
R4.450	Grianan, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	48.8
R4.451	Arrochaira, Arrochaira, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	49.5
R4.452	Cambir, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	39.2
R4.453	Railway Cottage, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	39.6
R4.454	Rowanbrae, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	37.5
R4.455	Craigeach, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	50.2
R4.457	Drumreach, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	32.8
R4.459	Tigh Sith, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	46.9

RID	Address	Distance from LMA (m)
R4.460	Tigh-Na-Geat, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	49.5
R4.461	Tigh-Na-Geat Cottage, B8019 From The Junction Of The B8097 North Of Faskally To The A924 North West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	31.2
R4.462	Kennel Cottage, A9T From The Entrance To Kennels Faskally To The A924 Slip Roads West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LA	48.4
R4.465	Kennels Faskally, A9T From The Entrance To Kennels Faskally To The A924 Slip Roads West Of Pitlochry, Faskally, Perth And Kinross, PH16 5LE	19.5
R4.504	Donavourd Lodge, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5LY	31.6
R4.505	Wester Ballinluig, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	57.3
R4.506	Milton Of Fonab, Farmhouse, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	95.1
R4.507	Milton Of Fonab, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	95.1
R4.509	Dunfallandy, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	59.7
R4.510	Dunfallandy, Wyandotte, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	59.1
R4.511	Mains Of Dunfallandy, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	30.0
R4.512	Dunfallandy Home Farm Cottage, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	25.8
R4.514	Dunfallandy House Hotel, Dunfallandy House, Access Road Linking A9T To The C452 At Littleton Of Fonab, Pitlochry, Perth And Kinross, PH16 5NA	99.8
R4.515	Dunfallandy House, Guest House, Access Road Linking A9T To The C452 At Littleton Of Fonab, Pitlochry, Perth And Kinross, PH16 5NA	99.8
R4.516	Easter Ballinluig Of Dunfallandy, Zc452 From Bridge Road Pitlochry To The Access Road Leading To Logierait Wood South Of Wester Wooden, Pitlochry, Perth And Kinross, PH16 5NA	35.9
R4.524	Ferrymans Cottage, Port-Na-Craig Road, Pitlochry, Perth And Kinross, PH16 5ND	77.4
R4.525	Rose Cottage, Port-Na-Craig Road, Pitlochry, Perth And Kinross, PH16 5ND	55.8
R4.526	Tummelbank Cottage, 2 Port-Na-Craig Road, Pitlochry, Perth And Kinross, PH16 5ND	67.8
R4.527	Dowally Cottage, Port-Na-Craig Road, Pitlochry, Perth And Kinross, PH16 5ND	74.1
R4.528	Voland, Port-Na-Craig Road, Pitlochry, Perth And Kinross, PH16 5ND	81.7
R4.529	Fonab Castle, Staff Accomodation 1, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	83.9
R4.530	Fonab Castle, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	89.8
R4.531	Fonab Castle, Staff Accomodation 5, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	92.1
R4.532	Fonab Castle, Staff Accomodation 4, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	93.8
R4.534	Fonab Castle, Staff Accomodation 2, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	96.0
R4.535	Fonab Castle, Staff Accomodation 3, Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	97.2
R4.541	Middleton Of Fonab Farm, A9T From The A924 Slip Roads West Of Pitlochry To The A924 Slip Roads By Croftinloan, Pitlochry, Perth And Kinross, PH16 5ND	14.9
R4.542	Middleton Of Fonab Cottages, 1 Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	44.3
R4.543	Middleton Of Fonab Cottages, 2 Foss Road, Pitlochry, Perth And Kinross, PH16 5ND	51.9
R4.545	Hilltop, Foss Road, Pitlochry, Perth And Kinross, PH16 5NE	59.3

RID	Address	Distance from LMA (m)
R4.546	Mullingar, Foss Road, Pitlochry, Perth And Kinross, PH16 5NE	23.6
R4.550	The Gate House, A9T From The A924 Slip Roads West Of Pitlochry To The A924 Slip Roads By Croftinloan, Pitlochry, Perth And Kinross, PH16 5NE	38.9
R4.551	Balmore, 1 Access Road Off C452 At Balmore, Pitlochry, Perth And Kinross, PH16 5NE	10.9
R4.552	Balmore, 2 Access Road Off C452 At Balmore, Pitlochry, Perth And Kinross, PH16 5NE	10.9
R4.553	Balmore, Access Road Off C452 At Balmore, Pitlochry, Perth And Kinross, PH16 5NE	10.9
R4.714	Dalshian House, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	56.1
R4.715	Dalshian Chalets, Dalshian Chalets, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	19.5
R4.716	Dalshian, The Bungalow, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	89.5
R4.717	Dalshian, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	90.8
R4.718	Dalshian, West Gate Cottage, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	90.2
R4.719	Middlehaugh Of Dalshian, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	71.1
R4.720	Dalshian, Acorn Bank Cottage, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	64.0
R4.721	West Haugh Of Dalshian, The Bungalow, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	50.4
R4.722	Dalshian, Stiomrabhagh, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	80.2
R4.723	Dalshian, Grianach House, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	99.2
R4.724	Dalshian, Middle Cottage, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	49.8
R4.725	Dalshian Farmhouse, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TD	73.5
R4.726	The Coach House, Zc503 From The East Boundary Of The Lodge Croftinloan To The Junction Of The U164, East Haugh, Perth And Kinross, PH16 5TE	68.0
R4.727	South East Haugh Cottages, Zc503 From The East Boundary Of The Lodge Croftinloan To The Junction Of The U164, East Haugh, Perth And Kinross, PH16 5TE	86.1
R4.728	North East Haugh Cottages, Zc503 From The East Boundary Of The Lodge Croftinloan To The Junction Of The U164, East Haugh, Perth And Kinross, PH16 5TE	91.6
R4.736	Fuaran, Zc503 From The East Boundary Of The Lodge Croftinloan To The Junction Of The U164, East Haugh, Perth And Kinross, PH16 5TE	83.1
R4.737	Iona, Zc503 From The East Boundary Of The Lodge Croftinloan To The Junction Of The U164, East Haugh, Perth And Kinross, PH16 5TE	81.3
R4.738	West Haugh Farm, Zc503 From The A924 South Of Pitlochry To The Access Road To The East Boundary Of The Lodge, Croftinloan, Perth And Kinross, PH16 5TF	86.0
R4.764	Boat House, Clunie Bridge Road, Pitlochry, Perth And Kinross, PH16 5JX	25.6