

Chapter 17

Assessment of Intra-Connection and Intra-KTR Effects

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17 Assessment of Intra-Connection and Intra-KTR Effects

Introduction

- 17.1 **Chapters 7 to 16** of the Environmental Impact Assessment (EIA) Report present the findings of the assessments of the likely effects of (i) each of the connections of the proposed Kendoon to Tongland 132 kilovolts (kV) Reinforcement Project ('the KTR Project'), and (ii) the KTR Project as a Whole as if it were the subject of a single Section 37 Application, both of which are presented on a topic-by-topic basis:
- **Chapter 7: Landscape and Visual Amenity;**
 - **Chapter 8: Forestry;**
 - **Chapter 9: Geology, Hydrology, Hydrogeology, Water Resources and Peat;**
 - **Chapter 10: Ecology;**
 - **Chapter 11: Ornithology;**
 - **Chapter 12: Cultural Heritage;**
 - **Chapter 13: Traffic and Transport;**
 - **Chapter 14: Noise;**
 - **Chapter 15: Socioeconomics, Tourism and Recreation;** and
 - **Chapter 16: Other Issues.**
- 17.2 The findings of the assessment of the likely cumulative effects of each connection of the KTR Project with other developments in the relevant Study Areas (including the other connections of the KTR Project) (the 'inter-connection effects') are also presented in **Chapters 7 to 16** (i.e. where one receptor may be affected by similar effects resulting from more than one development). In addition, the results of the assessment of the likely cumulative effects of the KTR Project as a Whole together with other developments in the relevant Study Areas (the 'inter-KTR effects'), are also reported in the individual topic chapters. The overarching methodology for these elements of the assessment is set out in **Chapter 3: Approach to the EIA**, with the details being provided in the specialist assessment **Chapters 7 to 16**.
- 17.3 This chapter considers the 'intra-connection effects' arising from each connection comprising the KTR Project i.e. the combined effects on a single receptor resulting from a number of separate effects caused by each connection of the KTR Project, including removal of the existing N and R route towers¹:
- Polquharity to Glenlee via Kendoon (P-G via K) (including removal the existing N route and R route (north) towers);
 - Carsfad to Kendoon (C-K);
 - Earlstoun to Glenlee (E-G);
 - BG route deviation (BG Deviation); and
 - Glenlee to Tongland (G-T) (including removal of the existing R route (south) towers).

- 17.4 This chapter also considers the 'intra-KTR effects' on environmental receptors as a result of the KTR Project as a Whole as if it were arising from a single Section 37 Application i.e. the combined effects on a single receptor resulting from a number of separate effects.

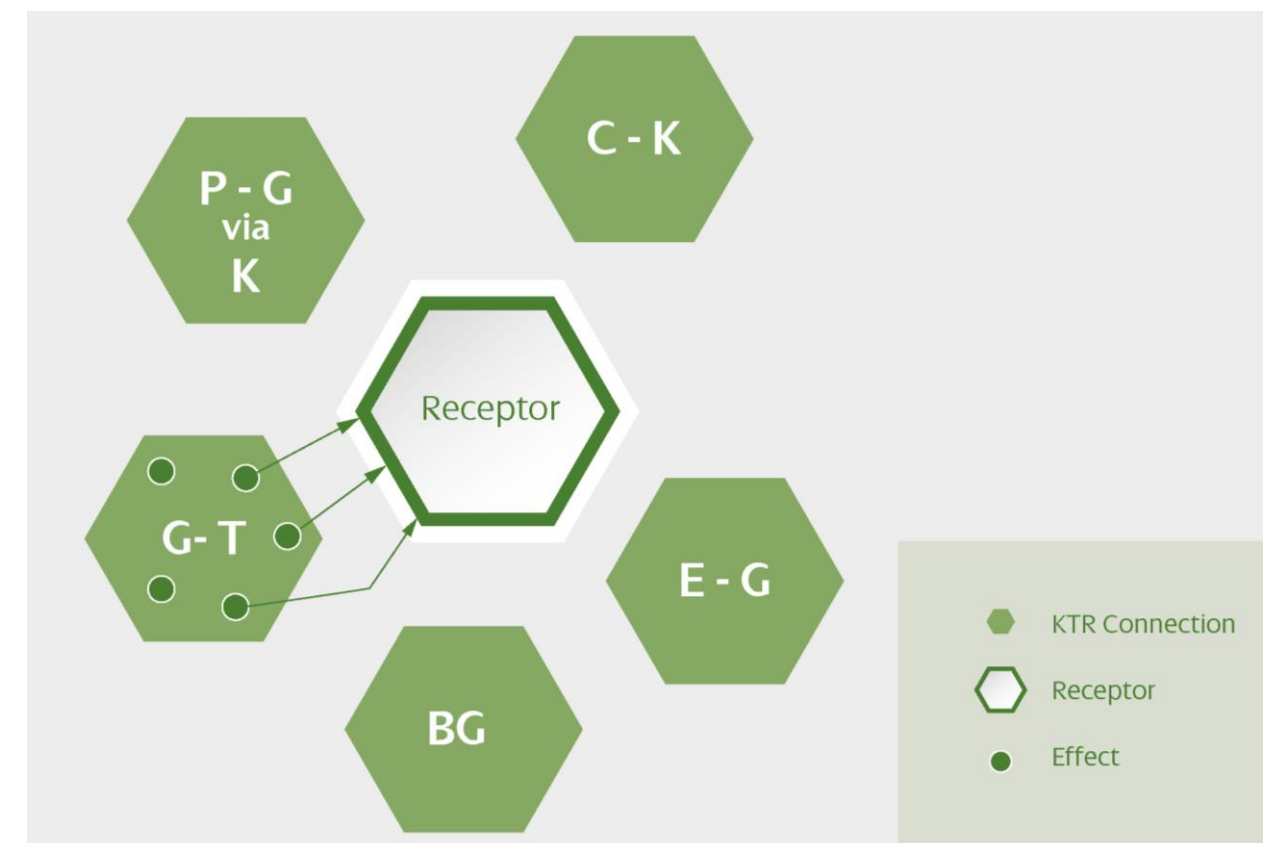
Scope of the Assessment

- 17.5 This chapter focusses on how construction and operational effects associated with the KTR Project, and decommissioning effects associated with the removal of the existing N and R routes, assessed in **Chapters 7 to 16** of the EIA Report could combine to affect a common receptor over the lifetime of the KTR Project.

Intra-Connection Effects

- 17.6 The assessment of **intra-connection effects** considers combined effects on environmental receptors arising from the proposed development subject to each Section 37 Application. The assessment has been undertaken separately in relation to the proposed development subject to each of the five Section 37 Applications (i.e. P-G via K; C-K; E-G; BG Deviation; and G-T).
- 17.7 An example of an 'intra-connection effect' would be where a particular property is affected by dust, noise and traffic disruption during construction, and where once operational there may be effects on visual amenity, with the combined result being greater than each individual effect alone. This is illustrated on **Figure 17.1** below.

Figure 17.1: Intra-Connection Effects

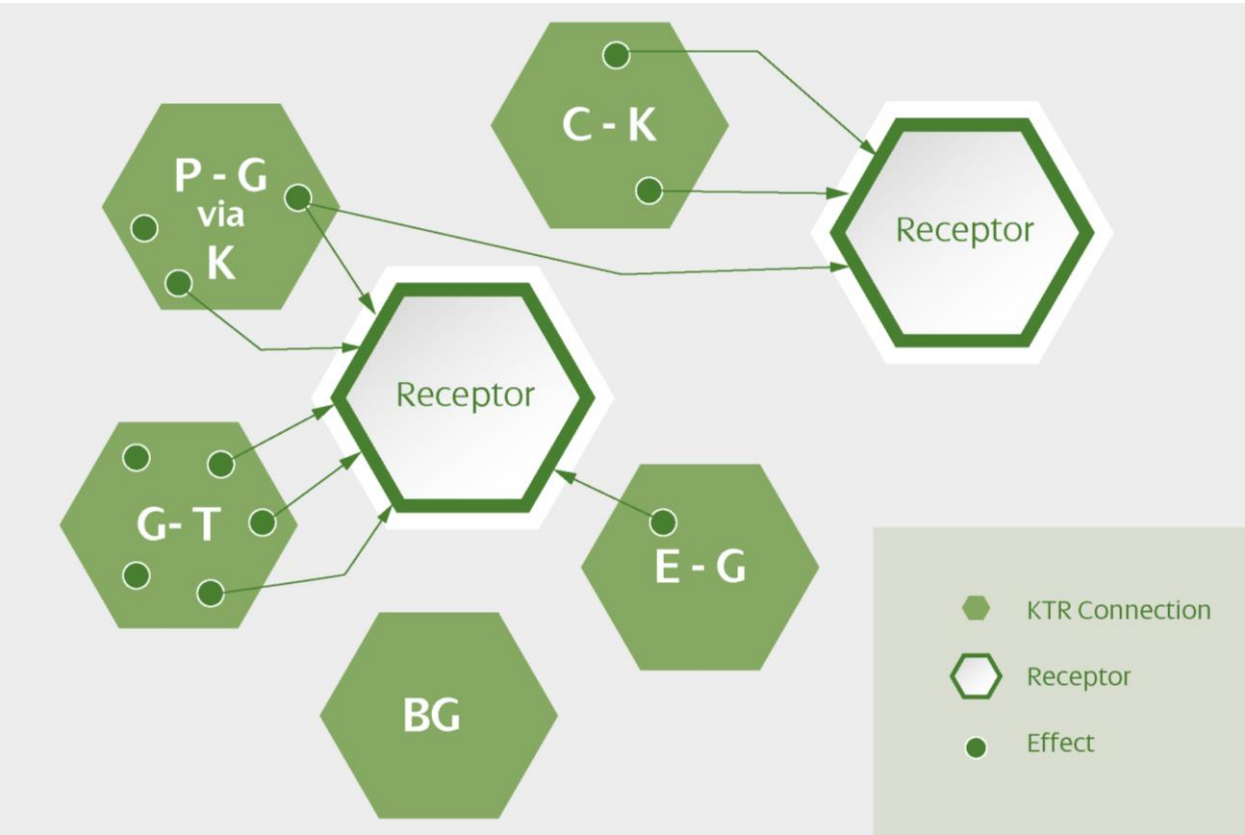


¹ R (north) represents the existing R route from Glenlee substation to Kendoon substation and R (south) represents the existing R route from Glenlee to Tongland substation.

Intra-KTR Effects

- 17.8 The assessment of **intra-KTR effects** considers effects on environmental receptors arising from the KTR Project as a Whole as if all five connections of the KTR Project were subject to a single Section 37 Application. This assessment considers the combined effects of a number of effects caused by the whole of the KTR Project on a single receptor (e.g. dust, noise and traffic as detailed). This is illustrated on **Figure 17.2** below.

Figure 17.2: Intra-KTR Effects



Receptors Scoped in to Assessment of Intra-Connection and Intra-KTR Effects

- 17.9 Following analysis of the receptors identified in **Chapters 7 to 16**, and having regard to the interactions identified in the EIA Report and the assessment results presented in the specialist assessment chapters, the key receptors considered likely to experience potential 'intra-connection effects' and 'intra-KTR effects' are residents living at nearby residences as represented by residential properties within this assessment. The potential intra-connection and intra-KTR effects primarily relate to the effects associated with:
- visual amenity during construction and operation as assessed in **Chapter 7**;
 - effects on private water supplies (PWS) during construction as assessed in **Chapter 9**;
 - construction traffic disturbance as assessed in **Chapter 13**²;
 - construction noise as assessed in **Chapter 14**; and
 - dust from construction activities as assessed in **Chapter 16**³.

Receptors Scoped Out of Assessment of Intra-Connection and Intra-KTR Effects

- 17.10 Sensitive receptors (i.e. properties) common to more than one assessment but where effects are identified as 'none' in all assessments prior to mitigation have been scoped out from the assessment.
- 17.11 It should be noted that, whilst some EIA topic specialist assessments have identified likely significant effects of the KTR Project during construction and operation, the receptors are only affected by that specific type of effect. As they are not considered to be affected by more than one type of effect, for the purposes of the assessment these receptors are not considered likely to experience 'intra-connection effects' or 'intra-KTR effects'. For example, effects on protected species take into account disturbance from construction noise etc. and are therefore not considered as receptors that are likely to experience further 'intra-connection effects' or 'intra-KTR effects'. As such, and as noted above, the key receptors considered likely to experience 'intra-connection effects' and 'intra-KTR effects' are residents living nearby as represented by residential properties within this assessment.
- 17.12 With the exception of links between noise generated by traffic and effects on air quality from dust and vehicle emissions considered below, the 'intra-connection effects' and 'intra-KTR effects' are not considered to be functionally linked. The assessments of 'intra-connection effects' and 'intra-KTR effects' presented below therefore focus on the potential for residential receptors to be affected by the combination of effects that do not have a functional or 'cause and effect' relationship assessed in **Chapters 7 to 16**, e.g. construction noise disturbance affecting protected species, which is assessed in **Chapter 10** as explained above.

KTR as a Whole, 'Inter-Connection' and 'Inter-KTR' Effects

- 17.13 As noted in the introduction, the effects resulting from the combined effects of KTR as a whole, and the cumulative 'inter-connection' and 'inter-KTR' effects, are not considered in this chapter but are assessed in **Chapters 7 to 16** of the EIA Report. These assessments also consider the functional relationships between topics, i.e. where changes associated with one receptor would affect another receptor. Further detail is provided in **Chapter 3**, and the individual assessment chapters.

Assessment Methodology

Legislation and Guidance

Legislation

- 17.14 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) ("the EIA Regulations") require that an EIA "must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development (including, where the proposed development will have operational effects, such operational effects) on the factors specified in paragraph (3) and the interaction between those factors"⁴.

Guidance

- 17.15 Guidance on, and best practice examples of, the assessment of effect interactions is currently limited; this can be attributed to the complex nature and difficulty in undertaking such an assessment, leading to the relative scarcity of good practice.
- 17.16 The following guidance has been drawn upon to inform the methodology for this assessment:
- European Commission DG XI Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (May 1999)⁵; and

² Effects associated with noise and air quality/dust from temporary construction traffic were scoped out of detailed assessment in **Chapter 13: Traffic and Transport** on the basis that the KTR Project will be accessed via a number of geographically distinct roads and access points. However, given the potential for interaction with other topics considered in this chapter, and the potential for nuisance to properties, this has been considered in the assessment if 'intra-connection' and 'intra-KTR' effects. Properties located within 200m of the KTR Project, public roads or on new accesses proposed for use during construction of the KTR Project have therefore been marked 'Y' in **Table 17.1** and are considered in the assessment of intra-connection and intra-KTR effects.

³ Potential effects associated with Electric and Magnetic Fields (EMF) which are also assessed in Chapter 16 are not considered in the assessment of intra-connection and intra-KTR effects as these are all assessed as being not significant.

⁴ The factors listed in paragraph 3 are human beings, fauna and flora, soil, water, air, climate and the landscape, material assets, and cultural heritage.

⁵ <https://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/guidel.pdf>

- International Association for Impact Assessment (IAIA) Cumulative Effects Assessment Fast Tips (October 2017)⁶.

Consultation

17.17 The approach to the assessment of ‘intra-connection’ and ‘intra-KTR’ effects evolved over the course of the EIA. No comments were included in relation to the assessment methodology for this type of combined effect in the Scoping Opinion received from the Scottish Government Energy Consents Unit (ECU), or from any of the consultees contacted during the scoping and EIA process. As such, the methodology has been based on the professional judgement and experience of the EIA team.

Study Area

17.18 The Study Area for the assessment of ‘intra-connection effects’ and ‘intra-KTR effects’ is defined by the Study Areas of each of the individual environmental topic assessments, (discussed in the relevant topic chapters), focussed on the identification of residential properties which may experience such effects.

Assessing Significance

17.19 The predicted significance of the ‘intra-connection’ and ‘intra-KTR’ effects was determined based on professional judgement, considering the extent to which a single receptor (i.e. residents as represented by residential properties) may be affected as a result of a combination of different effects during the construction and operation of the KTR Project. The assessments of ‘intra-connection’ and ‘intra-KTR’ effects consider how the residual effects for each topic may combine to affect a common receptor.

17.20 The assessment has been undertaken on a qualitative basis, informed by professional judgement and experience as noted above, i.e. it is not necessarily the case that two minor effects identified in the individual topic chapters when combined together result in an increased level of effect.

17.21 The objective of the intra-connection and intra-KTR effects assessment is to identify where any additional effects arise through a combination of the effects identified in the individual topic assessments (i.e. in the original assessment of effects on visual amenity, PWS, traffic, noise or dust). Where a significant effect is identified for a particular aspect, these are noted below but not ‘double counted’ in the assessment presented below.

17.22 All receptors are assumed to be of high sensitivity, and the magnitude of effect has been determined on professional judgement with consideration given to the likely duration of the effects and the extent to which they may overlap during the construction period, and then continue during operation. **Major** and **moderate** effects are considered to be significant in the context of the EIA Regulations.

17.23 **Table 17.1** lists the residential properties that have been considered in the assessment of potential ‘intra-connection’ and ‘intra-KTR’ effects during construction and operation, on the basis that they were included in the chapters listed above, and details where effects are identified in the specialist assessment chapters, and which connection of the KTR Project they relate to. The location of these properties is illustrated on **Figure 17.3**. The following points should be noted in consideration of the data presented in **Table 17.1**:

- Where relevant, some of the properties have been grouped together using the same groupings that have been used in the assessment of effects on visual amenity presented in **Chapter 7**.
- Properties have been considered where they are assessed for potential effects on PWS in **Chapter 9**.
- The properties included in the ‘Noise’ column are representative noise-sensitive locations identified in **Chapter 14**. As detailed in the noise assessment, this list is not intended to be exhaustive but is sufficient to be representative of noise levels typical of those receptors closest to the proposed works and overhead lines (OHLs) for each connection comprising the KTR Project.
- Properties within 200m of new access tracks or the public road network proposed to be used during construction as illustrated on **Figure 13.1** are included under the ‘Traffic’ column. This is on the

basis that, as for the assessment of effects on dust, sensitive receptors are likely to occur within this distance, based on guidance in the Design Manual for Roads and Bridges (DMRB) as detailed further in **Chapter 16**.

- **Chapter 16** concluded that there would be **no significant** effects on properties associated with dust on the basis that standard dust control measures will be in place as described in the dust assessment, however for the purposes of a robust and comprehensive assessment, all properties assessed for potential dust effects are included in **Table 17.1**.
- Where properties are grouped together, the assessment considers the maximum case in terms of level of likely effect, acknowledging that the extent and type of effects will vary for each property in the group.
- Properties are included on the basis of having residual effects of ‘**minor**’ or above for the relevant topic.
- Effects on visual amenity are considered to be long term where these extend into the operational phase of the KTR Project. All other effects are associated with construction and are short-term.

Table 17.1: Properties Assessed for Potential ‘Intra-Connection’ and ‘Intra-KTR’ Effects

Property (Reference)	Map Ref	Visual	Hydro	Traffic	Noise	Dust	Connection
Brennan Bank	(1)			Y	Y*	Y	G-T
High Carminnows	(2)		Y	Y	Y*	Y	P-G via K
Carminnows Lodge	(3)			Y		Y	P-G via K
Ramerish Retreat	(4)		Y	Y		Y	G-T
Lochenbreck Cottage	(5)		Y	Y		Y	G-T
Gatehouse	(6)		Y	Y		Y	G-T
Cullenoeh	(7)		Y	Y		Y	G-T
Bargatton Bungalow	(8)		Y	Y		Y	G-T
Polquhanity	(9)			Y		Y	P-G via K
Dalshangan Lodge	(10)			Y	Y*		P-G via K
Karnak	(11)	Y		Y	Y*		P-G via K
Polmaddie Farm	(12)	Y		Y	Y*	Y	P-G via K
Deughside	(13)	Y		Y		Y	P-G via K
The Cabin	(14)	Y		Y		Y	P-G via K
Dundeugh properties ⁷ 1-14	(15-28)	Y		Y	Y*	Y	P-G via K
Knockback	(29)	Y		Y		Y	P-G via K
Ridgeway, Dalry	(30)	Y		Y		Y	P-G via K
Phail Barcris, Dalry	(31)	Y		Y	Y*	Y	P-G via K
Kendoon properties x 14 ⁸	(32-46)	Y		Y	Y†	Y	P-G via K/C-K
Stroangassel Farm	(47)	Y		Y	Y†	Y	P-G via K/C-K
Carsfad Cottage	(48)	Y		Y	Y†	Y	P-G via K/C-K
Inverharrow	(49)	Y		Y	Y†	Y	P-G via K
Barskeoch Mains	(50)			Y	Y*		P-G via K

⁶ https://www.iaia.org/uploads/pdf/Fastips_16%20Cumulative%20Effects%20Assessment_1.pdf

⁷ Dundeugh 1-14 (number 3 used as representative property in assessment of effects associated with construction noise).

⁸ Including Benavean, Stonebyres, Nairn, Struan, Birnam, Kinross, Strathmore, Dunkeld, Brander, Katrine, Lochy, Clunie, Treig, and Afric. Stonebyres has been assessed for construction and operational noise effects. Afric and Kinross were used as representative properties in the construction noise assessment; operational effects were assessed for Stonebyres.

Property (Reference)	Map Ref	Visual	Hydro	Traffic	Noise	Dust	Connection
Allangibbon Cottages x 4 ⁹	(51-54)			Y		Y	P-G via K/E-G
Staffa	(55)	Y		Y	Y†	Y	P-G via K/E-G
Waterside, Glenlee	(56)	Y	Y	Y	Y†	Y	P-G via K/E-G
Glenlee power station properties x 9 ¹⁰	(57-65)	Y		Y	Y†	Y	P-G via K/E-G/BG/G-T
Blackbank	(66)		Y		Y†	Y	BG Deviation/G-T
Glenlee properties x 9 ¹¹	(67-75)		Y	Y			BG Deviation/G-T
Glenlee Kennels	(76)	Y	Y				BG Deviation/G-T
Airie Cottage	(77)	Y	Y		Y†		G-T
Darsalloch	(78)	Y	Y	Y	Y†	Y	G-T
Boatknowe	(79)	Y‡		Y	Y*		P-G via K/G-T (R removal)
Grennan Farm, Cottage and Dairy Farm	(80-82)	Y‡	Y	Y			G-T (R removal)
Mallard Cottage	(83)	Y‡		Y	Y*		G-T (R removal)
Plover Cottage	(84)	Y‡	Y	Y	Y		G-T (R removal)
Curlew Cottage	(85)	Y‡	Y	Y	Y		G-T (R removal)
Garplefoot	(86)	Y‡	Y	Y			G-T (R removal)
Black O The Eye	(87)			Y	Y*		G-T (R removal)
Cubbox Farm	(88)		Y	Y			G-T (R removal)
Cubbox Bungalow	(89)		Y	Y			G-T (R removal)
Killochy Farm	(90)	Y‡			Y*		G-T (R removal)
Mosscroft	(91)						G-T (R removal)
Ken Tor	(92)	Y‡		Y	Y*		G-T (R removal)
Nether Ervie Cottage	(93)	Y‡			Y*		G-T (R removal)
Fominoch Cottage	(94)		Y	Y	Y*		G-T (R removal)
Barbershall	(95)	Y‡	Y	Y			G-T (R removal)
Auchenhay	(96)	Y‡		Y	Y*		G-T (R removal)
Drumlane Cottage	(97)	Y‡		Y	Y*		G-T (R removal)
Cot Cottage	(98)		Y	Y		Y	G-T
Neuk Farm	(99)	Y‡			Y*		G-T (R removal)
Glentoo Farm	(100)	Y‡			Y*		G-T (R removal)
Culcrae	(101)			Y	Y*	Y	G-T
Upper Balannan Cottages x 3 ¹²	(102-104)	Y		Y	Y†	Y	G-T
Woodlands	(105)	Y		Y	Y*	Y	G-T
Argrennan Mains Farm and properties x 5 ¹³	(106-110)	Y		Y	Y†	Y	G-T

Property (Reference)	Map Ref	Visual	Hydro	Traffic	Noise	Dust	Connection
Park of Tongland	(111)			Y		Y	G-T
Park of Tongland Dairy Cottage	(112)			Y		Y	G-T
Hilldrop Lodge	(113)	Y			Y†		G-T
Parklea	(114)		Y	Y			G-T
Low Clachan	(115)			Y	Y	Y	G-T
Clachan Cottage	(116)			Y	Y	Y	G-T
High Clachan	(117)	Y		Y	Y*	Y	G-T
Tongland x 15 ¹⁴	(118-132)	Y		Y		Y	G-T
Langbarns	(133)	Y		Y	Y†	Y	G-T
Weir House, Langbarns	(134)	Y		Y	Y†	Y	G-T
Lynnbank, Culdoach Road	(135)	Y		Y	Y†	Y	G-T
Ashton	(136)			Y	Y†		G-T

* construction/tower removal assessed for noise only for property/representative property in the cluster

† construction and operation assessed for noise for property/representative property in the cluster

‡ beneficial effects associated with visual amenity as a result of removal of existing R route (south) infrastructure

Assessment Limitations

17.24 The assessment of ‘intra connection’ and ‘intra KTR’ effects is affected by the same limitations identified in the assessments presented in the specialist assessments that have been used to inform this chapter as set out in **Chapters 7 to 16**.

Future Baseline in the Absence of Development

17.25 **Chapters 7 to 16** set out the anticipated changes to the baseline in the absence of the KTR Project. In summary, the key changes that may affect the residential receptors as represented by properties and groups of properties for which ‘intra-connection’ and ‘intra-KTR’ effects are assessed include:

- Changes to visual amenity as a result of new developments including further reinforcement and changes to the electricity transmission network, renewable energy developments (notably wind farms), changes to forestry, and other changes to land use. Further details are set out in **Chapter 7**.
- Risk of increased flooding of properties, and implications on PWS, as a result of climate change, although currently there are no properties downstream of the infrastructure of the KTR Project (i.e. the steel towers, wood poles, access tracks, construction compounds, working areas or quarries) that are at currently at flood risk as noted in **Chapter 9**.
- Changes to traffic flows on the local road network during construction of the KTR Project, which are predicted to increase broadly in line with National Road Traffic Forecasts (NRTF); growth is anticipated to be low as detailed in **Chapter 13**.

⁹ 2 Allangibbon Cottages was used as the representative property in the construction noise assessment.

¹⁰ Including the properties directly adjacent to the Glenlee hydroelectric power station (Carville, Dunston, Tummel, Rannoch, Tarbert, Navaar, Maree, Orrin, and Garry). Carville and Navaar have been assessed for construction and operational noise effects, Dunston was used as representative properties in the construction noise assessment.

¹¹ Including the properties at Glenlee (Mill House, Tower Cottage, Chestnut Cottage, Bell Cottage, Dairy Cottage, North Lodge, Glenlee Garden, Glenlee Park, and Stables Cottage).

¹² North Cottage, Upper Balannan Cottages, and South Cottage (North Cottage used as representative property in assessment of effects associated with construction noise).

¹³ Dunaverty, The Upper Cottage, Dunroamin, Lower Cottage, and Argrennan Mains Farm (The Upper Cottage used as representative property in assessment of effects associated with construction noise and operational noise).

¹⁴ Gordon Lea, Langbarns Cottage, Schiehallion, Barhullion, Meikleyett, Morar, Tongland Hall, Fernilee, Barwood, Clynelish, Turnstone, Comhla, Meikleyett House, Mansewood Cottage, Mansewood (Meikleyett and Meikleyett House used as representative properties in assessment of effects associated with construction noise and operational noise).

Implications of Climate Change

- 17.26 As noted in earlier chapters, qualitatively, the UK Climate Projections CP18 2080 medium emissions scenario for Western Scotland identifies that future baseline climatic conditions in Dumfries and Galloway may result in the following:
- increased temperatures: the predictions are an increase in winter mean temperature is 2.4°C and increase in summer mean temperature is 3.4°C;
 - increase in dry spells, particularly in the summer months: the prediction is that summer mean precipitation is -19%;
 - increase in winter rainfall: the predictions are that the change in winter mean precipitation is 15%;
 - increase in wind speeds, with winter months experiencing more significant impacts of wind, accompanied by an increase in frequency of winter storms over the UK.
- 17.27 The assessment of 'intra-connection' and 'intra-KTR' effects is not anticipated to change in the event that the climate change projections set out above occur during the lifetime of the KTR Project, particularly as the assessment set out in this chapter is predominantly focussed on the construction phase which will be completed by 2026.

Infrastructure Location Allowance

- 17.28 The approach to micrositing and use of the 50m infrastructure location allowance (ILA) is set out in **Chapter 4: Development Description**, and detailed comments for each topic are provided in **Chapters 7 to 16** of the EIA Report. Where changes to the design of the KTR Project are required within the ILA, care will be taken to ensure that works are not undertaken in closer proximity to residential receptors than currently proposed (and therefore assessed) wherever possible.

Mitigation

- 17.29 As detailed in **Chapter 3**, each specialist assessment chapter presents:
- Embedded mitigation: items that are embedded through the design of the KTR Project and are described in the chapters relating to particular topics, and which will be delivered during the construction process; and
 - Additional mitigation: items that are further required to mitigate the likely adverse effects of the KTR Project and which will be implemented to avoid, reduce or offset these effects identified in relation to particular topics.
- 17.30 The assessments presented in **Chapters 7 to 16** of the EIA Report have been undertaken on the basis that the embedded mitigation forms an integral part of the KTR Project. The best practice/industry standard measures which form the embedded mitigation to be implemented during the construction process across all topic areas are, by their nature, ones which are well understood, and for which there is a high degree of confidence as to their effectiveness, i.e. it is highly likely that these measures would be successful. The specialist topic chapters detail the additional mitigation identified during the assessment process to address localised site/issue specific likely adverse effects. On this basis, the assessment presented within this chapter assumes that all of the mitigation (i.e. embedded mitigation and additional mitigation) is in place before reaching a judgement on the likely 'intra-connection' and 'intra-KTR' effects, identifying further additional mitigation if considered to be required. For completeness, the pre-mitigation effect for the individual assessments is also reported below where this differs from the residual effect.

Intra-Connection Effects – Polquhanity to Glenlee (via Kendoon)

- 17.31 A new 132kV double circuit OHL is required between Polquhanity (situated approximately 3km north of the existing Kendoon substation) and the existing Glenlee substation, via the existing Kendoon substation. This proposed OHL, of approximately 10.1km in length, will connect to the recently constructed OHL which runs from Polquhanity to the existing New Cumnock substation; situated 3km north-east of Dalmellington. In addition to the new connection, the assessment also considers the potential effects associated with the removal of the N route towers between Polquhanity and Kendoon, and the R route (north) towers between Kendoon and Glenlee.

Existing Conditions

- 17.32 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in 'intra-connection' effects on residential receptors are set out in **Chapters 7, 9, 13, 14, and 16**.

Predicted Intra-Connection Effects P-G via K

- 17.33 **Table 17.2** sets out the level of residual effect for the relevant types of effects identified for each property. The exceptions to this are effects associated with dust (as all effects were identified as 'none' in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of residual effect for the relevant types of effects identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Where properties have been included in the assessment to take account of the potential effects of construction traffic and dust, these are marked 'X' in **Table 17.2**. The locations of the properties noted below are shown on **Figure 17.3**.

Table 17.2: Summary of Effects and Potential Intra-Connection Effects P-G via K

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
High Carminnows	n/a	Minor, not significant during construction and operation	X	Minor, not significant during construction and operation	X	High Carminnows will potentially experience four types of effects assessed in the EIA. There is the potential for an effect on the PWS at High Carminnows prior to mitigation as there is uncertainty as to the exact location of the borehole that supplies the property. Monitoring of water quality will be undertaken and the residual effect will be minor. As the residual effects associated with construction noise are also considered to be minor , and on the basis that no significant effects are predicted for traffic and transport and dust, the significance of the 'intra-connection'

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						effects is considered to be minor .
Carminnows Lodge	n/a	n/a	X	n/a	X	Carminnows Lodge will potentially experience two types of effects assessed in the EIA Report. As no significant effects are predicted in relation to traffic and transport or dust, the significance of the 'intra-connection' effects is considered to be none .
Polquhanity	n/a	n/a	X	n/a	X	Polquhanity will potentially experience two types of effects assessed in the EIA Report. As no significant effects are predicted in relation to traffic and transport or dust, the significance of the 'intra-connection' effects is considered to be none .
Dalshangan Lodge	n/a	n/a	X	Minor*, not significant during construction and operation	n/a	Dalshangan Lodge will potentially experience two types of effects assessed in the EIA Report. The property is located on an access which will be used during construction, however on the basis that no significant traffic effects were predicted, and that noise effects are predicted to last no longer than one week at this location and will be minor and therefore not significant (as outlined in Chapter 14), the significance of the 'intra-connection' effects is considered to be minor .
Karnak	Major, significant during construction and Moderate significant	n/a	X	Minor*, not significant during construction and operation	n/a	Karnak will potentially experience three types of effects assessed in the EIA Report.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
	during operation					During construction, major effects are predicted on visual amenity. Prior to mitigation, a moderate effect is predicted on Karnak due to construction of new access tracks which are within 150m of the property. The works are predicted to last only one week and through the implementation of mitigation to reduce the effects of construction noise (i.e. limiting construction within 150m of Karnak during weekends to the hours 08:00 to 13:00 on Saturdays, with no work on Sundays), the residual construction noise effect will be reduced to minor . it is considered that the 'intra-connection' effects when considering noise and traffic in addition to visual amenity will also be major . Once operational, the only remaining effect will be associated with visual amenity which is moderate .
Polmaddie Farm	Moderate, significant during construction and operation (included within Dundeugh settlement in Chapter 7)	n/a	X	Minor*, not significant during construction and operation	X	Polmaddie Farm will potentially experience four types of effects associated assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor prior to

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						mitigation and will last no longer than one week at this location (as outlined in Chapter 14). Once operational, the only remaining effect will be associated with visual amenity which is moderate .
Deughside	Moderate significant during construction and operation (included within Dundegh settlement in Chapter 7)	n/a	X	n/a	X	Deughside will potentially experience three types of effects assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments. Once operational, the only remaining effect will be associated with visual amenity which is moderate .
The Cabin (included within Dundegh settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	n/a	X	The Cabin will potentially experience three types of effects assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments. Once operational, the only remaining effect will be associated with visual amenity which is moderate .

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
Dundegh properties 1-14	Moderate, significant during construction and operation	n/a	X	Minor*, not significant during construction and operation	X	The properties at Dundegh (x14) potentially experience four types of effects assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to last no longer than one week at this location and will be minor and therefore not significant (as outlined in Chapter 14). Once operational, the only remaining effect will be associated with visual amenity which is moderate .
Knockback (included within Dundegh settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	n/a	X	Knockback will potentially experience three types of effects assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments. Once operational, the only remaining effect will be associated with visual amenity which is moderate .

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
Ridgeway (included within Dundegh settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	n/a	X	<p>Ridgeway will potentially experience three types of effects assessed in the EIA Report.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering traffic and dust in addition to visual amenity will also be moderate. This is on the basis that no traffic or dust effects were predicted in the original assessments.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is moderate.</p>
Phail Barcris (included within Dundegh settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	Minor*, not significant during construction and operation	X	<p>Phail Barcris will potentially experience four types of effects assessed in the EIA Report.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be moderate. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to last no longer than one week at this location (as outlined in Chapter 14).</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is moderate.</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
Kendoon properties x 14 (included within Kendoon settlement in Chapter 7)	Major, significant during construction and Moderate during operation	n/a	X	Minor†, not significant during construction and operation	X	<p>The properties at Kendoon (x14) will potentially experience four types of effects assessed in the EIA Report.</p> <p>During construction, major effects are predicted on visual amenity. Prior to mitigation a moderate effect is also predicted for noise as a result of construction activities on the worst case assumption that these would be undertaken at weekends. The works are predicted to last less than four weeks, and through the implementation of mitigation to reduce the effects of construction noise (i.e. limiting construction during the weekend to the hours of 08:00 to 13:00 on Saturdays, with no work on Sundays), the residual construction noise effect will be reduced to minor. No traffic or dust effects were predicted in the original assessments. It is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be major.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is moderate. Operational noise effects assessed for representative properties at this location were judged to be not significant, and due to the change to more modern infrastructure, may actually result in a</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						reduction in operational noise at Stonebyres as detailed in Chapter 14 .
Stroangassel Farm	Minor, not significant during construction and operation	n/a	X	Minor†, not significant during construction and operation	X	<p>Stroangassel Farm will potentially experience four types of effects assessed in the EIA Report.</p> <p>During construction, effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be minor. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to last no longer than one week at this location (as outlined in Chapter 14).</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor. Operational noise effects assessed for representative properties at this location were judged to be not significant.</p>
Carsfad Cottage	Minor, not significant during construction and operation	n/a	X	Minor†, not significant during construction and operation	X	<p>Carsfad Cottage will potentially experience four type of effects assessed in the EIA Report.</p> <p>During construction, minor effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be minor. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						are predicted to be minor prior to mitigation and last no longer than one week at this location (as outlined in Chapter 14).
						Once operational, the only remaining effect will be associated with visual amenity which is minor . Operational noise effects assessed for representative properties at this location were judged to be not significant .
Inverharrow	Moderate, significant during construction and Minor not significant during operation	n/a	X	Minor†, not significant during construction and operation	X	<p>Inverharrow will potentially experience four types of effects assessed in the EIA Report.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be moderate. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor prior to mitigation last no longer than one week at this location (as outlined in Chapter 14).</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor. No operational noise effects were identified.</p>
Barskeoch Mains	n/a	n/a	X	Minor*, not significant during construction and operation	n/a	<p>Barskeoch Mains will potentially experience two types of effects assessed in the EIA Report.</p> <p>The property is located close to a public road which will be used during</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						construction, however on the basis that no significant traffic effects were predicted, and that noise effects are predicted to be minor prior to mitigation and to last no longer than one week at this location (as outlined in Chapter 14), the significance of the 'intra-connection' effects is considered to be minor .
Allangibbon Cottages x 4	n/a	n/a	X	n/a	X	The four Allangibbon Cottages will potentially experience two types effects assessed in the EIA Report. As no significant effects are predicted in relation to traffic and transport or dust, the significance of the 'intra-connection' effects is considered to be none .
Staffa	Minor, not significant during construction and operation	n/a	X	Minor†, not significant during construction and operation	X	Staffa will potentially experience four types of effects assessed in the EIA Report. During construction, minor effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be minor . This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor prior to mitigation and to last no longer than one week at this location (as outlined in Chapter 14). Once operational, the only remaining effect

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						will be associated with visual amenity which is minor . No operational noise effects were identified.
Waterside, Glenlee	Moderate, significant during construction and Minor not significant during operation	Minor, not significant during construction and operation	X	None†, not significant during construction and operation	X	Waterside, Glenlee will potentially experience five types of effects assessed in the EIA Report. During construction, moderate effects are predicted on visual amenity. It is therefore considered that the 'intra-connection' effects when considering effects on PWS, noise, traffic and dust in addition to visual amenity will be moderate . This is on the basis that, whilst there is the potential for an effect on the PWS at Waterside prior to mitigation due to the proximity of the construction works to the PWS source (within 10m), monitoring of water quality will be undertaken and the residual effect will be minor . No traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to last no longer than four weeks at this location (as outlined in Chapter 14). Once operational, the only remaining effect will be associated with visual amenity which is minor . No operational noise effects were identified.
Glenlee power station	Minor, not significant during construction	n/a	X	None†, not significant during construction	X	The nine properties adjacent to Glenlee Power Station will potentially experience

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
properties x 9 (included within Glenlee settlement in Chapter 7)	and operation			and operation		<p>four types of effects assessed in the EIA Report.</p> <p>During construction, minor effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be minor. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor prior to mitigation and to last no longer than four weeks at this location (as outlined in Chapter 14).</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor. Operational noise effects assessed for representative properties at this location were judged to be not significant.</p>
Boatknowe	Major, significant during construction and †Moderate, significant during operation	n/a	X	Minor*, not significant during construction and operation	n/a	<p>Boatknowe will potentially experience three types of effects assessed in the EIA Report.</p> <p>During construction, major effects are predicted on visual amenity. A moderate effect is also predicted for noise prior to mitigation as a result of construction activities on the worst case assumption that these would be undertaken at weekends. The works are predicted to be of relatively short duration, however to minimise the potentially significant effect, on weekends construction will be limited 08:00 to 13:00 on Saturdays,</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-Connection' Effect P-G (via K)
						<p>with no works taking place on Sundays resulting in a residual effect of minor significance. It is therefore considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will be major. No traffic or dust effects were predicted in the original assessments.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is moderate and positive due to the removal of the existing R route infrastructure.</p>

* construction/tower removal assessed for noise only for property/representative property in the cluster

† construction and operation assessed for noise for property/representative property in the cluster

‡ beneficial effects associated with visual amenity as a result of removal of existing infrastructure

Proposed Mitigation

- 17.34 Where mitigation has been identified for the individual assessments this is noted in **Table 17.2** above. No additional mitigation to address intra-connection effects is required.

Residual Intra-Connection Effects

- 17.35 The residual 'intra-connection' effects for P-G via K remain as set out in **Table 17.2** above. No new significant effects have been identified over and above those associated with the original assessments.

Monitoring

- 17.36 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.2** above.

Summary of Intra-Connection Effects P-G via K

- 17.37 Based on the information presented in **Table 17.2** no new significant 'intra-connection' effects are anticipated during construction and operation of the P-G via K connection of the KTR Project.

Intra-Connection Effects – Carsfad to Kendoon

- 17.38 A new 132kV single circuit OHL, of approximately 2.6km in length, is required between the hydroelectric power station at Carsfad and the existing substation at Kendoon. The OHL will be supported on a 'trident' design wood pole.

Existing Conditions

17.39 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in ‘intra-connection’ effects on residential receptors are set out in **Chapter 7, 9, 13, 14, and 16**.

Predicted Intra-Connection Effects C-K

17.40 **Table 17.3** sets out the level of residual effect for the relevant types of effects identified for each property. The exceptions to this are effects associated with dust (as all effects were identified as ‘none’ in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of residual effect for the relevant types of effects identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Where properties have been included in the assessment to take account of the potential effects of construction traffic and dust, these are marked ‘X’ in **Table 17.3**. The locations of the properties noted below are shown on **Figure 17.3**

Table 17.3: Summary of Effects and Potential Intra-Connection Effects C-K

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	‘Intra-connection’ Effect C-K
Kendoon properties x 14 ¹⁵ (included within Kendoon settlement in Chapter 7)	Moderate, significant during construction and Minor not significant during operation	n/a	X	Minor, not significant during construction and None† not significant during operation	X	<p>The properties at Kendoon (x14) will potentially experience four types of effects assessed in the EIA Report.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the ‘intra-connection’ effects when considering noise, traffic and dust in addition to visual amenity will also be moderate. This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor and to last no longer than one week at this location (as outlined in Chapter 14).</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor. Operational noise effects assessed for representative properties at this location were judged</p>

¹⁵ Including Benavean, Stonebyres, Nairn, Struan, Birnam, Kinross, Strathmore, Dunkeld, Brander, Katrine, Lochy, Clunie, Treig, and Afric. Stonebyres has been assessed for construction and operational noise effects. Afric and Kinross were used as representative properties in the construction noise assessment; operational effects were assessed for Stonebyres.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	‘Intra-connection’ Effect C-K
						to be not significant , and due to the change to more modern infrastructure, may result in a reduction in operational noise at Stonebyres.
Stroangassel Farm	Minor, not significant during construction and operation	None, not significant during construction and operation	X	None†, not significant during construction and operation	X	<p>Stroangassel Farm will potentially experience five types of effects assessed in the EIA Report.</p> <p>During construction, minor effects are predicted on visual amenity. A potential effect on the Stroangassel PWS has also been identified prior to mitigation as there is a risk that pipework connecting the source to the property could be affected during construction and cable installation. To minimise the risk of an effect, the pipework will be identified and avoided during construction thereby reducing the effect to none. It is therefore considered that the ‘intra-connection’ effects when considering effects on PWS, noise, traffic and dust in addition to visual amenity will be minor. This is on the basis that no traffic, dust or noise effects were predicted in the original assessments and no residual effects on PWS were identified.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor.</p>
Carsfad Cottage	Minor, not significant during construction	None, not significant during construction	X	None†, not significant during construction	X	Carsfad Cottage will potentially experience five types of effects

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect C-K
	and operation	and operation		and operation		<p>assessed in the EIA Report.</p> <p>During construction, minor effects are predicted on visual amenity. A potential effect is predicted on the PWS due to the proximity of the works to the source (within 20m at its closest point) and as the infrastructure connecting the source to the supplied properties is currently unknown. The location of the pipework will be identified and avoided prior to works taking place, resulting in a residual effect of minor significance. It is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity and effects on PWS will be minor. This is on the basis that no traffic, dust or noise effects were predicted in the original assessments and no significant residual effects on PWS were identified.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor.</p>

[†] construction and operation assessed for noise for property/representative property in the cluster

Proposed Mitigation

- 17.41 Where mitigation has been identified for the individual assessments this is noted in **Table 17.3** above. No additional mitigation to address potential intra-connection effects is required.

Residual Intra-Connection Effects

- 17.42 The residual 'intra-connection' effects for C-K remain as set out in **Table 17.3** above. No new significant effects have been identified over and above those associated with the original assessments.

Monitoring

- 17.43 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.3** above.

Summary of Intra-Connection Effects C-K

- 17.44 Based on the information presented in **Table 17.3** no new significant 'intra-connection' effects are anticipated during construction and operation of the P-G via K connection of the KTR Project.

Intra-Connection Effects – Earlstoun to Glenlee

- 17.45 A new 132kV single circuit OHL, of approximately 1.6km in length, is required between the hydroelectric power station at Earlstoun and the existing substation at Glenlee. The OHL will be supported on a 'trident' design wood pole. A short section of approximately 250m of underground cable will be required to connect into the Glenlee substation. During construction, three wood poles will require to be erected on a temporary basis to facilitate safe removal of the existing R route. Following its removal the line will be diverted onto the final alignment.

Existing Conditions

- 17.46 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in 'intra-connection' effects on residential receptors are set out in **Chapter 7, 9, 13, 14, and 16**.

Predicted Intra-Connection Effects E-G

- 17.47 **Table 17.4** sets out the level of residual effect for the relevant types of effects identified for each property. The exceptions to this are effects associated with dust (as all effects were identified as 'none' in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of residual effect for the relevant types of effects identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Where properties have been included in the assessment to take account of the potential effects of construction traffic and dust, these are marked 'X' in **Table 17.4**. The locations of the properties noted below are shown on **Figure 17.3**.

Table 17.4: Summary of Effects and Potential Intra-Connection Effects E-G

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect E-G
Allangibbon Cottages x 4 ¹⁶	n/a	n/a	X	n/a	X	<p>The Allangibbon Cottages (x 4) will potentially experience two types of effects assessed in the EIA.</p> <p>As no significant effects are predicted in relation to traffic and transport or dust, the significance of the 'intra-connection' construction effects is considered to be none.</p>

¹⁶ 2 Allangibbon Cottages was used as the representative property in the construction noise assessment.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect E-G
						Once operational, there will be no residual intra-connection effects.
Staffa	Minor, not significant during construction and Minor not significant during operation	n/a	X	Minor†, not significant during construction and operation	X	<p>Staffa will potentially experience four types of effects assessed in the EIA.</p> <p>During construction, minor effects are predicted on visual amenity. Prior to mitigation, a moderate effects is predicted for noise. However, this will be reduced to minor through the implementation of mitigation (i.e. limiting construction to 08:00 to 13:00 on Saturdays, with no works taking place on Sundays). It is therefore considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will be minor. This is on the basis that no significant traffic, dust or residual noise effects were predicted in the original assessments.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor.</p>
Waterside, Glenlee	Minor, not significant during construction and operation	None, not significant during construction and operation	X	Minor, not significant during construction and operation	X	<p>Waterside, Glenlee will potentially experience five types of effects assessed in the EIA.</p> <p>During construction, minor effects are predicted on visual amenity and on the PWS due to the proximity of the works to the source location (within 10m). Monitoring of the water quality of the</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect E-G
						<p>PWS will be undertaken before and during construction and the residual effect will be minor. Prior to mitigation a potential moderate effect is also predicted for noise however this will be reduced to minor through the implementation of mitigation (i.e. limiting construction to 08:00 to 13:00 on Saturdays, with works taking place on Sundays).</p> <p>It is therefore considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity, noise and PWS will also be minor. This is on the basis that no significant traffic, dust or residual PWS or noise effects were predicted in the original assessments.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor.</p>
Glenlee power station properties x 9 ¹⁷ (included within Glenlee settlement in Chapter 7)	Minor, not significant during construction and operation	n/a	X	Minor, not significant during construction and following mitigation and Minor† during operation	X	<p>The properties at Glenlee (x 9) will potentially experience four types of effects assessed in the EIA.</p> <p>During construction, minor effects are predicted on visual amenity. Prior to mitigation, a potential moderate effect is predicted for noise however through the implementation of mitigation (i.e. limiting construction to 08:00 to 13:00 on Saturdays, with works taking place on</p>

¹⁷ Including the properties directly adjacent to the Glenlee hydroelectric power station (Carville, Dunston, Tummel, Rannoch, Tarbert, Navaar, Maree, Orrin, and Garry). Carville and Navaar have been assessed for construction and operational noise effects, Dunston was used as representative properties in the construction noise assessment.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect E-G
						Sundays) this will be reduced to minor . It is therefore considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be minor . This is on the basis that no significant traffic, dust or residual noise effects were predicted in the original assessments. Once operational, there will be no residual intra-connection effects.

† construction and operation assessed for noise for property/representative property in the cluster

Proposed Mitigation

- 17.48 Where mitigation has been identified for the individual assessments this is noted in **Table 17.4** above. No additional mitigation to address potential intra-connection effects is required.

Residual Intra-Connection Effects

- 17.49 The residual 'intra-connection' effects for E-G remain as set out in **Table 17.4** above. No new significant effects have been identified over and above those associated with the original assessments.

Monitoring

- 17.50 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.4** above.

Summary of Intra-Connection Effects E-G

- 17.51 Based on the information presented in **Table 17.4** no new significant 'intra-connection' effects are anticipated during construction and operation of the E-G connection of the KTR Project.

Intra-Connection Effects – BG Deviation

- 17.52 The BG Deviation comprises an existing 132kV OHL between the existing Glenlee substation and the existing substation at Newton Stewart. The OHL is currently supported on lattice steel towers. To facilitate construction and operation of the proposed OHL for the G-T connection, the first five existing towers of BG route (BG098-BG102) are proposed to be moved approximately 40m north, with tower BG097 remaining in its existing location and replaced with a new L4 tower. The relocation of these towers will result in an approximate 1.2km deviation of the existing BG OHL which will connect into the proposed extension to the Glenlee substation. The existing towers which are currently part of the BG

route will then form part of the proposed new G-T connection which will terminate within the proposed substation extension at Glenlee.

Existing Conditions

- 17.53 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in 'intra-connection' effects on residential receptors are set out in **Chapter 7, 9, 13, 14, and 16**.

Predicted Intra-Connection Effects BG Deviation

- 17.54 **Table 17.5** sets out the level of residual effect for the relevant types of effects identified for each property. The exceptions to this are effects associated with dust (as all effects were identified as 'none' in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of residual effect for the relevant types of effects identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Where properties have been included in the assessment to take account of the potential effects of construction traffic and dust, these are marked 'X' in **Table 17.5**. The locations of the properties noted below are shown on **Figure 17.3**.

Table 17.5: Summary of Effects and Potential Intra-Connection Effects BG Deviation

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect BG
Glenlee power station properties x 9 ¹⁸ (included within Glenlee settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	Minor, not significant during construction and None† not significant during operation	X	The properties at Glenlee power station (x 9) will potentially experience four types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering noise, traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor and to last no longer than four weeks at this location (as outlined in Chapter 14). Once operational, the only remaining effect will be associated with visual amenity which is moderate .

¹⁸ Including the properties directly adjacent to the Glenlee hydroelectric power station (Carville, Dunston, Tummel, Rannoch, Tarbert, Navaar, Maree, Orrin, and Garry). Carville and Navaar have been assessed for construction and operational noise effects, Dunston was used as representative properties in the construction noise assessment.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect BG
Blackbank	n/a	None, not significant during construction and operation	n/a	Minor, not significant during construction and None† not significant during operation	X	<p>Blackbank will potentially experience three types of effects assessed in the EIA.</p> <p>During construction, minor effects are predicted on noise and a potential effect is predicted on Glenlee PWS which supplies the Blackbank property. Monitoring of the PWS will be undertaken before, during and after construction which will result in the residual effect being of minor significance. It is therefore considered that the 'intra-connection' effects when also considering dust will also be minor. This is on the basis that no significant residual PWS or dust effects were predicted in the original assessments, and that noise effects are predicted to be minor and to last no longer than four weeks at this location (as outlined in Chapter 14).</p> <p>Once operational, there will be no residual intra-connection effects.</p>
Glenlee properties x 9 ¹⁹	n/a	Minor, not significant during construction and operation	X	n/a	n/a	<p>The properties at Glenlee (x 9) will potentially experience two types of effects assessed in the EIA.</p> <p>During construction a potential effect prior to mitigation has been identified for Glenlee PWS which supplies these properties. Monitoring of the PWS will be undertaken before, during and after construction which will result in the residual effect being of minor significance. The assessments did</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect BG
						<p>not identify any residual effects associated with traffic therefore the intra-connection construction effect for the BG Deviation connection is considered to be minor.</p> <p>Once operational, there will be no residual intra-connection effects.</p>
Glenlee Kennels	Minor, not significant during construction and operation	None, not significant during construction and operation	n/a	n/a	n/a	<p>Glenlee Kennels will potentially experience two types of effects assessed in the EIA.</p> <p>During construction minor effects are predicted for visual amenity and a potential minor effect on water quality of the PWS is identified before mitigation as the source location and pipework of the supply is currently unknown. This will be identified prior to construction and monitoring will be undertaken before and during construction, and an alternative supply will be provided if required. The residual effect on the PWS will therefore be reduced to none. It is therefore considered that the residual construction effects will be minor.</p> <p>Once operational, the only remaining effect will be associated with visual amenity which is minor.</p>

† construction and operation assessed for noise for property/representative property in the cluster

Proposed Mitigation

- 17.55 Where mitigation has been identified for the individual assessments this is noted in **Table 17.5** above. No additional mitigation to address potential intra-connection effects is required.

¹⁹ Including the properties at Glenlee (Mill House, Tower Cottage, Chestnut Cottage, Bell Cottage, Dairy Cottage, North Lodge, Glenlee Garden, Glenlee Park, and Stables Cottage).

Residual Intra-Connection Effects

17.56 The residual ‘intra-connection’ effects for the BG Route Deviation remain as set out in **Table 17.5** above. No new significant effects have been identified over and above those associated with the original assessment.

Monitoring

17.57 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.5** above.

Summary of Intra-Connection Effects BG Deviation

17.58 Based on the information presented in **Table 17.5** no new significant ‘intra-connection’ effects are anticipated during construction and operation of the BG Route Deviation of the KTR Project.

Intra-Connection Effects – Glenlee to Tongland

17.59 A new 132kV double circuit OHL, of approximately 32.3km in length, is required between the existing/extended Glenlee substation and the existing Tongland substation. The OHL will be supported on L4 lattice steel towers, which have six cross-arms (three on each side) and have a standard design height of 26m. In addition, approximately 33km of existing 132kV steel tower OHL between Glenlee and Tongland (R route (south)) will be removed.

Existing Conditions

17.60 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in ‘intra-connection’ effects on residential receptors are set out in **Chapter 7, 9, 13, 14, and 16**.

Predicted Intra-Connection Effects G-T

17.61 **Table 17.6** sets out the level of residual effect for the relevant types of effects identified for each property. The exceptions to this are effects associated with dust (as all effects were identified as ‘none’ in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of residual effect for the relevant types of effects identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Where properties have been included in the assessment to take account of the potential effects of construction traffic and dust, these are marked ‘X’ in **Table 17.6**. The locations of the properties noted below are shown on **Figure 17.3**.

Table 17.6: Summary of Effects and Potential Intra-Connection Effects G-T

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	‘Intra-connection’ Effect G-T
Bennan Bank	n/a	n/a	X	None*, not significant during construction and operation	X	Bennan Bank will potentially experience three types of effects assessed in the EIA. Prior to mitigation a potential moderate effect is predicted for construction noise however through the implementation of mitigation (i.e. limiting works during

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	‘Intra-connection’ Effect G-T
						weekends to the hours of 08:00 to 13:00 on Saturdays, with no work on Sunday) the effect will be reduced to minor . As no significant effects are predicted during construction or operation in relation to traffic, or dust, the significance of the ‘intra-connection’ effects is considered to be none .
Ramerish Retreat	n/a	None, not significant during construction and operation	X	n/a	X	Ramerish Retreat will potentially experience three types of effects assessed in the EIA. As no significant effects are predicted during construction or operation in relation to PWS, traffic or dust, the significance of the ‘intra-connection’ effects is considered to be none .
Lochenbreck Cottage	n/a	None, not significant during construction and operation	X	n/a	X	Lochenbreck Cottage will potentially experience three types of effects assessed in the EIA. As no significant effects are predicted during construction or operation in relation to PWS, traffic or dust, the significance of the ‘intra-connection’ effects is considered to be none .
Gatehouse	n/a	None, not significant during construction and operation	X	n/a	X	Gatehouse will potentially experience three types of effects assessed in the EIA. As no significant effects are predicted during construction or operation in relation to PWS, traffic or dust, the significance of the ‘intra-connection’ effects is considered to be none .
Cullenoch	n/a	None, not significant during	X	n/a	X	Cullenoch will potentially experience

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
		construction and operation				three types of effects assessed in the EIA. Prior to mitigation a potential effect is identified for the Cullenoch PWS due to proximity of the works to the two Cullenoch source structures (within 20m). In addition, it is understood from discussions with the owner of the property that previous forestry works have resulted in effects on the waters supply. As such, mitigation is proposed to reduce the effect to minor significance, including inclusion of additional Sustainable Drainage Systems (SuDS) along the access tracks close to the source, and monitoring of the PWS during construction. As no significant residual effects are predicted during construction or operation in relation to PWS, traffic or dust, the significance of the 'intra-connection' effects is considered to be minor .
Bargatton Bungalow	n/a	None, not significant during construction and operation	X	n/a	X	Bargatton Bungalow will potentially experience three types of effects assessed in the EIA. A potential effect on the PWS is identified due to the proximity of the source to the potential for hydrological connectivity between the source and the construction works and as the exact location of the supply pipework to the property is not currently known. Mitigation will be

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						implemented, including identification and avoidance of the pipework prior to construction taking place, and monitoring of water quality before, during and after construction. The residual effect will be of minor significance. As no significant effects are predicted during construction or operation in relation to PWS, traffic or dust, the significance of the 'intra-connection' effects is considered to be minor .
Glenlee power station properties x 9 ²⁰ (included within Glenlee settlement in Chapter 7)	Moderate, significant during construction and operation	n/a	X	Minor, not significant during construction and None† not significant during operation	X	The properties at Glenlee power station will potentially experience four types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity. Prior to mitigation a moderate effect is also predicted for construction noise however through the implementation of mitigation (i.e. limiting works during weekends to the hours of 08:00 to 13:00 on Saturdays, with no work on Sunday) the effect will be reduced to minor . It is therefore considered that the 'intra-connection' effects when considering effects on noise, traffic and dust in addition to visual amenity will also be moderate . This is on the basis that no traffic or dust effects were predicted in the original assessments,

²⁰ Including the properties directly adjacent to the Glenlee hydroelectric power station (Carville, Dunston, Tummel, Rannoch, Tarbert, Navaar, Maree, Orrin, and Garry). Carville and Navaar have been assessed for construction and operational noise effects, Dunston was used as representative properties in the construction noise assessment.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						and that the noisiest activities are predicted to be of short duration at this location and are not significant following the implementation of mitigation. Whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year. (as outlined in Chapter 14).
Blackbank	n/a	None, not significant during construction and operation	n/a	None†, not significant during construction and operation	X	Blackbank will potentially experience three types of effects assessed in the EIA. As no significant effects are predicted during construction or operation in relation to PWS, noise or dust, the significance of the 'intra-connection' effects is considered to be none .
Glenlee properties x 9 ²¹	n/a	Minor, not significant during construction and operation	Y	n/a	n/a	The Glenlee properties (x 9) will potentially experience two types of effects assessed in the EIA. During construction a potential effect prior to mitigation has been identified for Glenlee PWS which supplies these properties. Monitoring of the PWS will be undertaken before, during and after construction which will result in the residual effect being of minor significance. As no significant effects are predicted during construction or operation in relation to PWS or traffic, the significance of the 'intra-connection' effects is considered to be minor .
Glenlee Kennels	Minor, not significant during	None, not significant during	n/a	n/a	n/a	Glenlee Kennels will potentially experience

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
	construction and operation	construction and operation				two types of effects assessed in the EIA. During construction minor effects are predicted for visual amenity and a potential minor effect on water quality of the PWS is identified before mitigation as the source location and pipework of the supply is currently unknown. This will be identified prior to construction and monitoring will be undertaken before and during construction, and an alternative supply will be provided if required. The residual effect on the PWS will therefore be reduced to none . It is therefore considered that the residual construction effects will be minor . During operation, minor effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on PWS in addition to visual amenity will also be minor . This is on the basis that no significant effects on PWS were predicted in the original assessment.
Airie Cottage	Moderate, significant during construction and operation	None, not significant during construction and operation	n/a	None†, not significant during construction and operation	n/a	Airie Cottage will potentially experience three types of effects assessed in the EIA. During construction and operation, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on PWS and noise in

²¹ Including the properties at Glenlee (Mill House, Tower Cottage, Chestnut Cottage, Bell Cottage, Dairy Cottage, North Lodge, Glenlee Garden, Glenlee Park, and Stables Cottage).

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						addition to visual amenity will also be moderate . This is on the basis that no significant effects on PWS or noise were predicted in the original assessment.
Darsalloch	Moderate, significant during construction and Minor not significant during operation	Minor, not significant during construction and operation	X	None†, not significant during construction and operation	X	<p>Darsalloch will potentially experience five types of effects assessed in the EIA.</p> <p>During construction, moderate effects are predicted on visual amenity. A potential effect is also identified for the PWS however mitigation in the form of monitoring before, during and after construction will reduce the significance of the effect to minor.</p> <p>It is therefore considered that the 'intra-connection' effects when considering effects on PWS in addition to visual amenity will also be moderate. This is on the basis that no significant residual effects were identified for any of the other topics considered in the assessment of 'intra-connection' effects for G-T.</p> <p>Once operational, the effect on visual amenity will reduce to minor. On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be minor.</p>
Boatknowe‡	Moderate beneficial, significant during operation and as a result of the	n/a	n/a	Minor, not significant during construction and None* not significant	n/a	<p>Boatknowe will potentially experience two types of effects assessed in the EIA.</p> <p>During construction moderate noise effects are predicted</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
	removal of the R Route			during operation		<p>on Boatknowe however the noisiest works are likely to be completed within one week at this location and effects will be reduced to minor following the implementation of mitigation (i.e. limiting construction during weekends to the hours of 08:00 to 13:00 on Saturdays, with no work on Sundays). On this basis, the intra-connection effects are considered to be minor.</p> <p>Once operational there will be a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. As such, the overall intra-connection effect is also considered to be moderate beneficial as no significant adverse effects have been identified for the other topics considered.</p>
Grennan Farm, Cottage and Dairy Farm‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	None, not significant during construction and operation	X	n/a	n/a	<p>The Grennan Farm properties will potentially experience three types of effects assessed in the EIA, including a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. Identification of the location of the pipework between the PWS source and associated properties to avoid damage before construction commences will ensure that the effect on PWS is none.</p> <p>As no significant effects are predicted in the assessments of PWS or traffic, the overall intra-connection effect is considered to be moderate beneficial</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						for the Grennan Farm properties.
Mallard Cottage‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	n/a	X	Minor, not significant during construction and None* , not significant during operation	n/a	Mallard Cottage will potentially experience three types of effects assessed in the EIA, including a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. As no significant effects are predicted in the assessments of traffic or noise (and as the noisiest works are scheduled to last less than one week during construction resulting in, at worst, a minor effect and the total duration of noise raising activities will not exceed more than four weeks in one year), the intra-connection effect is considered to be moderate beneficial for Mallard Cottage.
Plover Cottage‡	Minor beneficial, significant during operation and as a result of the removal of the R Route	None, not Significant during construction and operation	X	Minor, not significant during construction and None*²² , not significant during operation	n/a	Plover Cottage will potentially experience four types of effects assessed in the EIA, including a minor beneficial effect on residential visual amenity as a result of removal of the existing R route. As no significant effects are predicted in the assessments of PWS or traffic, the intra-connection effect is considered to be minor beneficial for Plover Cottage.
Curlew Cottage‡	Minor beneficial, significant during operation and as a result of the removal of the R Route	None not Significant during construction and operation	X	Minor, not significant during construction and None*²³ not significant during operation	n/a	Curlew Cottage will potentially experience four types of effects assessed in the EIA, including a minor beneficial effect on residential visual amenity as a result of removal of the existing R route.

²² Represented by Mallard Cottage

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						As no significant effects are predicted in the assessments of PWS or traffic, the intra-connection effect is considered to be minor beneficial for Curlew Cottage.
Garplefoot‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	None, not significant during construction and operation	X	n/a	n/a	Garplefoot will potentially experience three types of effects assessed in the EIA, including a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. As no significant effects are predicted in the assessments of PWS or traffic, the intra-connection effect is considered to be moderate beneficial for Garplefoot.
Black O The Eye‡	n/a	n/a	X	None*, not significant during construction and operation	n/a	Black O the Eye will potentially experience two types of effects assessed in the EIA. On the basis that no significant effects were identified for either traffic or noise during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Cubbox Farm‡	n/a	None, not significant during construction and operation	X	n/a	n/a	Cubbox Farm will potentially experience two types of effects assessed in the EIA. Whilst no significant effects on the PWS are predicted, the location of the pipework between the source and the property is currently unknown and will be identified and marked prior to works taking place. On the basis that no significant effects were identified for either PWS or traffic during

²³ Represented by Mallard Cottage

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Cubbox Bungalow‡	n/a	None, not significant during construction and operation	X	n/a	n/a	Cubbox Bungalow will potentially experience two types of effects assessed in the EIA. Whilst no significant effects on the PWS are predicted, the location of the pipework between the source and the property is currently unknown and will be identified and marked prior to works taking place. On the basis that no significant effects were identified for either PWS or traffic during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Killochy Farm‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	n/a	n/a	None*, not significant during construction and operation	n/a	Kyllochy Farm will potentially experience two types of effects assessed in the EIA, including a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. As no significant effects are predicted in the assessments of noise, the intra-connection effect is considered to be moderate beneficial for Killochy Farm.
Mosscroft‡	Minor beneficial, significant during operation and as a result of the removal of the R Route	n/a	X	Minor, not significant during construction and None*, not significant during operation	n/a	Mosscroft will potentially experience three types of effects assessed in the EIA, including a minor beneficial effect on residential visual amenity as a result of removal of the existing R route. Works associated with the removal of R route

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						(south), which would be within 40m of the property, could result in a significant effect of moderate significance prior to mitigation. Works will last no longer than one week and through the implementation of mitigation (i.e. limiting works during weekends to the hours of 08:00 to 13:00 on Saturdays, with no work on Sundays) the significance of the effect will be reduced to minor . As no significant effects are predicted in the assessments of traffic or noise during construction, the intra-connection effect is considered to be minor beneficial for Mosscroft.
Ken Tor‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	n/a	X	Minor, not significant during construction and None*, not significant during operation	n/a	Ken Tor will potentially experience three types of effects assessed in the EIA. During construction moderate noise effects are predicted prior to mitigation due to the length of the track to be constructed close to the property. Mitigation will be implemented through restricting working hours to the hours of 08:00 to 13:00 on Saturdays, with no work on Sundays). The residual noise effect will be minor on the basis that the noisiest activities are likely to be completed in less than one week and sensitive times will be avoided. Furthermore, whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						Once operational there will be a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be moderate beneficial once operational.
Nether Ervie Cottage‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	n/a	n/a	Minor, not significant during construction and None*, not significant during operation	n/a	<p>Nether Ervie will potentially experience two types of effects assessed in the EIA.</p> <p>During construction minor noise effects are predicted on Nether Ervie Cottage however the noisiest works are likely to be completed within one week at this location and effects will not be significant. On this basis, the intra-connection effects are considered to be minor.</p> <p>Once operational there will be a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be moderate beneficial once operational.</p>
Fominoch Cottage‡	n/a	None, not significant during construction and operation	X	None*, not significant during construction and operation	n/a	<p>Fominoch will potentially experience two types of effects assessed in the EIA.</p> <p>Whilst no significant effects on the PWS are predicted, the location of the pipework between the source and the property is currently unknown and will be identified and marked prior to works taking place. On the basis that no significant effects were identified for either PWS, traffic or noise during</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Barbershall‡	Moderate beneficial, significant during operation and as a result of the removal of the R Route	Minor, not significant during construction and operation	X	n/a	n/a	<p>Barbershall will potentially experience three types of effects assessed in the EIA, including a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route.</p> <p>A potential effect on the PWS is identified due to proximity of the spring source to the access tracks which will be used for the decommissioning of the R route (within 10m). The exact location of the PWS source will be verified onsite before the removal works commence and measures will be put in place to prevent the pollution of the PWS source and to prevent damage to any pipelines running between the PWS source and the property. The residual effect will be minor and monitoring will be undertaken during the removal works.</p> <p>As no significant effects are predicted in the assessments of PWS or noise, the long-term intra-connection effect is considered to be moderate beneficial for Barbershall.</p>
Auchenhay‡	Minor beneficial, significant during operation and as a result of the removal of the R Route	n/a	X	Minor, not significant during construction and None*, not significant during operation	n/a	<p>Auchenhay will potentially experience three types of effects assessed in the EIA.</p> <p>During construction minor effects are predicted due to construction noise however the noisiest works are likely to be</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						completed within one week at this location and effects will not be significant . On this basis, the intra-connection effects are considered to be minor . Once operational there will be a minor beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be minor beneficial once operational.
Drumlane Cottage‡	Minor beneficial, significant during operation and as a result of the removal of the R Route	n/a	X	Minor, not significant during construction and None*, not significant during operation	n/a	Drumlane Cottage will potentially experience three types of effects assessed in the EIA. During construction minor effects are predicted due to construction noise however the noisiest works are likely to be completed within one week at this location and effects will not be significant. No traffic effects are predicted. On this basis, the intra-connection effects are considered to be minor . Once operational there will be a minor beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be minor beneficial once operational.
Cot Cottage	n/a	None, not significant during construction and operation	X	n/a	X	Cot Cottage will potentially experience three types of effects assessed in the EIA. On the basis that no significant effects were identified for either PWS, traffic or dust during construction and

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						operation in the assessments, the significance of the intra-connection effect is considered to be none .
Neuk Farm	Minor beneficial, not significant during operation and as a result of the removal of the R Route	n/a	n/a	Minor, not significant during construction and None*, not significant during operation	n/a	Neuk Farm will potentially experience two types of effects assessed in the EIA. During construction minor effects are predicted on Neuk Farm however the noisiest works are likely to be completed within one week at this location and effects will not be significant . On this basis, the intra-connection effects are considered to be minor . Once operational there will be a minor beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be minor beneficial once operational.
Glentoo Farm	Moderate beneficial, significant during operation and as a result of the removal of the R Route	n/a	n/a	Minor, not significant during construction and None*, not significant during operation	n/a	Glentoo Farm will potentially experience two types of effects assessed in the EIA. During construction moderate noise effects are predicted on Glentoo Farm as the access tracks associated with the removal of R route south run parallel to the property and are within close proximity of the property. However the noisiest works are likely to be completed within one week at this location and effects will not be significant following the implementation of mitigation in the form of restricting working hours at weekends i.e. 08:00 to 13:00 on

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						Saturdays, with no work on Sundays. On this basis, the residual effects will be minor and the intra-connection effects are considered to be minor . Once operational there will be a moderate beneficial effect on residential visual amenity as a result of removal of the existing R route. The significance of the intra-connection effects is therefore also considered to be moderate beneficial once operational.
Culcrae	n/a	n/a	X	Minor, not significant during construction and None*, not significant during operation	X	Culcrae will potentially experience three types of effects assessed in the EIA. As no significant effects are predicted in the assessments of traffic, noise or dust (and as the noisiest works are scheduled to last less than one week during construction resulting in, at worst, a minor effect), the intra-connection effect is considered to be minor for Culcrae.
Upper Balannan Cottages x 3 ²⁴	Moderate, significant during construction and Minor, not significant during operation	n/a	X	None†, not significant during construction and operation	X	Upper Balannan will potentially experience four types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be moderate . This is on the basis that no significant residual effects were identified for any of the other

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						topics considered in the assessment of 'intra-connection' effects for G-T. Once operational, the effect on visual amenity will reduce to minor . On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be minor .
Woodlands	Moderate, significant , during construction and operation	n/a	X	Minor, not significant during construction and None*, not significant during operation	X	Woodlands will potentially experience four types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity and construction noise prior to mitigation. Through the implementation of restricted working hours at weekends i.e. 08:00 to 13:00 on Saturdays, with no work on Sundays, the effect of construction noise will be reduced to minor . Furthermore the noisiest activities are likely to be completed in less than one week and, whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year. It is therefore considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be moderate . This is on the basis that no significant residual effects were identified

²⁴ North Cottage, Upper Balannan Cottages, and South Cottage (North Cottage used as representative property in assessment of effects associated with construction noise).

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						for any of the other topics considered in the assessment of 'intra-connection' effects for G-T. Once operational, the effect on visual amenity will remain as moderate . On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be moderate .
Argrennan Mains Farm and properties x 5 ²⁵	Moderate, significant during construction and operation	n/a	X	Minor, not significant during construction and None*, not significant during operation	X	Argrennan Mains Farm (x 5) and Dunaverty will potentially experience four types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be moderate . This is on the basis that no significant residual effects were identified for any of the other topics considered in the assessment of 'intra-connection' effects for G-T. The noise effect will be minor on the basis that the noisiest activities are likely to be completed in less than one week and whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year. Once operational, the effect on visual amenity will remain

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						moderate . On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be moderate .
Park of Tongland	n/a	n/a	X	n/a	X	Park of Tongland will potentially experience two types of effects assessed in the EIA. On the basis that no significant effects were identified for either traffic or dust during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Park of Tongland Dairy Cottage	n/a	n/a	X	n/a	X	Park of Tongland Dairy Cottage will potentially experience two types of effects assessed in the EIA. On the basis that no significant effects were identified for either traffic or dust during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Hilldrop Lodge	Moderate, significant during construction and Minor, not significant during operation	n/a	n/a	None†, not significant during construction and operation	n/a	Hilldrop Lodge will potentially experience two types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on noise in addition to visual amenity will also be moderate as no significant noise

²⁵ Dunaverty, The Upper Cottage, Dunroamin, Lower Cottage, and Argrennan Mains Farm (The Upper Cottage used as representative property in assessment of effects associated with construction noise and operational noise).

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						effects were identified. Once operational, the effect on visual amenity will reduce to minor . On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be minor .
Parklea	n/a	None, not significant during construction and operation	X	n/a	n/a	Parklea will potentially experience two types of effects assessed in the EIA. A potential effect on the Parklea PWS was identified due to proximity of the source to the works (within 100m). However, with the implementation of mitigation, including monitoring during construction, the residual effect will be none . As such, on the basis that no significant effects were identified for either PWS or traffic during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
Low Clachan	n/a	n/a	X	None*, not significant during construction and operation	X	Low Clachan will potentially experience two types of effects assessed in the EIA. On the basis that no significant effects were identified for either noise, traffic or dust during construction and operation in the assessments, the significance of the intra-connection effect

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						is considered to be none .
Clachan Cottage	n/a	n/a	X	None*, not significant during construction and operation	X	Clachan Cottage will potentially experience two types of effects assessed in the EIA. On the basis that no significant effects were identified for either noise, traffic or dust during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none .
High Clachan	Moderate, significant during construction and Minor, not significant during operation	n/a	X	None*, not significant during construction and operation	X	High Clachan will potentially experience three types of effects assessed in the EIA. During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic and noise in addition to visual amenity will also be moderate as no significant effects were identified for the other topics. Once operational, the effect on visual amenity will reduce to minor . On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be minor .
Tongland x 15 ²⁶	Moderate, significant during construction and operation	n/a	X	n/a	X	The Tongland properties will potentially experience three types of effects assessed in the EIA.

²⁶ P199: Langbarns Cottage, P201: Kenmore, P207: Barhullion, P208: Meikleyett, P216: Barwood, P220: Comhla, P221: Meikleyett House. Meikleyett and Meikleyett House used as representative properties in assessment of effects associated with construction noise and operational noise.

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						<p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic and dust in addition to visual amenity will also be moderate as no significant effects were identified for the other topics.</p> <p>Once operational, the effect on visual amenity will remain moderate. On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be moderate.</p>
Langbarns	Moderate, significant during construction and operation	n/a	X	Minor, not significant during construction and None⁺, not significant during operation	X	<p>Langbarns will potentially experience four types of effects assessed in the EIA.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be moderate as no significant effects were identified for the other topics. The noise effect will be minor on the basis that the noisiest activities are likely to be completed in less than one week and whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year.</p> <p>Once operational, the effect on visual amenity will remain moderate. On the</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
						<p>basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be moderate.</p>
Weir House, Langbarns	Moderate, significant during construction and operation	n/a	X	Minor, not significant during construction and None⁺, not significant during operation	X	<p>Weir House will potentially experience four types of effects assessed in the EIA.</p> <p>During construction, moderate effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be moderate. This is on the basis that no significant residual effects were identified for any of the other topics considered in the assessment of 'intra-connection' effects for G-T. The noise effect will be minor on the basis that the noisiest activities are likely to be completed in less than one week and whilst the property will experience noise from multiple works, in total the duration will not exceed four weeks in one year.</p> <p>Once operational, the effect on visual amenity will reduce to minor. On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be moderate.</p>
Lynnbank, Culdoach Road	Minor, significant during construction	n/a	X	None⁺, not significant during construction	X	<p>Lynnbank will potentially experience</p>

Property	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect G-T
	and operation			and operation		<p>four types of effects assessed in the EIA.</p> <p>During construction, minor effects are predicted on visual amenity, therefore it is considered that the 'intra-connection' effects when considering effects on traffic, noise and dust in addition to visual amenity will also be minor. This is on the basis that no residual significant effects were identified for any of the other topics considered in the assessment.</p> <p>Once operational, the effect on visual amenity will reduce to minor. On the basis that no further operational effects were identified for the other topics considered in the assessment, it is considered that the intra-connection operational effects will also be minor.</p>
Ashton	n/a	n/a	X	None†, not significant during construction and operation	n/a	<p>Ashton will potentially experience two types of effects assessed in the EIA.</p> <p>On the basis that no significant effects were identified for either traffic or noise during construction and operation in the assessments, the significance of the intra-connection effect is considered to be none.</p>

* construction/tower removal assessed for noise only for property/representative property in the cluster

† construction and operation assessed for noise for property/representative property in the cluster

‡ beneficial effects associated with visual amenity as a result of removal of existing R route (South) infrastructure

Proposed Mitigation

- 17.62 Where mitigation has been identified for the individual assessments this is noted in **Table 17.6** above. No additional mitigation to address potential intra-connection effects is required.

Residual Intra-Connection Effects

- 17.63 The residual 'intra-connection' effects for the G-T connection remain as set out in **Table 17.6** above. No new significant effects have been identified over and above those associated with the original assessments.

Monitoring

- 17.64 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.6** above.

Summary of Intra-Connection Effects G to T

- 17.65 Based on the information presented in **Table 17.6** no new significant 'intra-connection' effects are anticipated during construction and operation of the G-T connection of the KTR Project.

Intra-KTR Effects – KTR Project as a Whole

Existing Conditions

- 17.66 Full details of the existing conditions in relation to the topics where it is considered that there could be interactions that could result in 'intra-KTR' effects on residential receptors are set out in **Chapters 7, 9, 13, 14, and 16**.

Predicted Intra-KTR Effects KTR Project as a Whole

- 17.67 **Table 17.7** sets out the level of effect identified for the KTR Project as a Whole for each property for the topic assessed prior to and following the implementation of mitigation where these are specifically identified in **Chapters 7, 9, 14, and 16**. The exceptions to this are effects associated with dust (as all effects were identified as 'none' in **Chapter 16**), and traffic and transport as individual properties are not identified in the assessment. As such, the level of effect identified for each property associated with traffic and dust has been informed by proximity to accesses and working locations, and the level of effects identified in **Chapter 13**, based on professional judgement and taking a precautionary approach. Not all properties listed in **Table 17.1** are noted below, only those where it has been identified that they could be affected by more than one connection, and where new combined effects are considered likely to arise in the relevant topic chapters considered in the intra-KTR effects assessment.

Table 17.7: Summary of Effects and Potential Intra-Connection Effects KTR as a Whole

Property	Relevant Connection	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect KTR as a Whole
Kendoon properties x 14 ²⁷ (included within Kendoon settlement in Chapter 7)	P-G via K/ C-K	Moderate (adverse, short-term) significant during construction and Moderate (adverse, long-term) significant during operation.	n/a	X	No additional noise effects are predicted for the Kendoon properties during construction or operation of the KTR Project as a Whole. Effects remain as identified in Chapter 14 for each connection (i.e. Prior to mitigation a moderate effect is also predicted for noise as a result of construction activities on the worst case assumption that these would be undertaken at weekends. The works are predicted to last less than four weeks, and through the implementation of mitigation to reduce the effects of construction noise (i.e. limiting construction during the weekend to the hours of 08:00 to 13:00 on Saturdays, with no work on Sundays), the residual construction noise effect will be reduced to minor . Once operational, there may be a reduction in noise at Stonebyres as detailed in Chapter 14).	X	The properties at Kendoon (x14) will potentially experience four types of intra-connection effects associated with the KTR Project as a whole. During construction, moderate effects are predicted on visual amenity. Prior to mitigation a moderate effect is also predicted for noise. However, as noted in the adjacent column, this will be reduced to minor through the implementation of mitigation. No traffic or dust effects were predicted in the original assessments. It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be moderate . Once operational, the only remaining effect will be associated with visual amenity which is moderate . Operational noise effects assessed for representative properties at this location were judged to be not significant , and due to the change to more modern infrastructure, may actually result in a reduction in operational noise at Stonebyres as detailed in Chapter 14 and as noted in the adjacent column. As such, it is considered that the intra-connection effects for the KTR Project as a Whole will be moderate once operational.
Stroangassel Farm	P-G via K/ C-K	Minor (adverse, short-term) not significant during construction and Moderate (adverse, long-term) not significant during operation.	n/a	X	No additional noise effects are predicted for the Stroangassel Farm during construction or operation of the KTR Project as a Whole. During construction, the combined noise levels from both connections are not predicted to result in an increase in noise effects which will be minor and which are predicted to last no longer than one week at this location (as outlined in Chapter 14).	X	Stroangassel Farm will potentially experience four types of effects assessed in the EIA Report. During construction, minor effects are predicted on visual amenity. No traffic or dust effects were predicted in the original assessments, and noise effects will be minor and are predicted to last no longer than one week at this location. It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be minor . Once operational, the only remaining effect will be associated with visual amenity which is minor . Operational noise effects assessed for representative properties at this location were judged to be not significant. As such, it is considered that the intra-connection operational effects for the KTR Project as a Whole will also be minor .
Carsfad Cottage	P-G via K/ C-K	Minor (adverse, short-term) not significant during construction and Minor (adverse, long-term) not significant during operation.	n/a	X	No additional noise effects are predicted for Carsfad Cottage during construction or operation of the KTR Project as a Whole. During construction, the combined noise levels from both connections are not predicted to result in an increase in noise effects which will be minor and which are predicted to last no longer than one week at this location (as outlined in Chapter 14).	X	Carsfad Cottage will potentially experience four types of effects assessed in the EIA Report. During construction, minor effects are predicted on visual amenity. No traffic or dust effects were predicted in the original assessments, and noise effects will be minor and are predicted to last no longer than one week at this location. It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be minor . Once operational, the only remaining effect will be associated with visual amenity which is minor . It is considered that the intra-connection construction and operational effects for the KTR Project as a Whole will be minor .
Staffa	P-G via K/ E-G	Minor (adverse, short-term) not significant during construction and Minor	n/a	X	Whether construction work on both connections occurs concurrently or consecutively, the assessment of effects presented in Chapter 14 confirms that the effect at Staffa would be minor prior to mitigation.	X	Staffa will potentially experience four types of effects assessed in the EIA Report.

²⁷ Including Benavean, Stonebyres, Nairn, Struan, Birnam, Kinross, Strathmore, Dunkeld, Brander, Katrine, Lochy, Clunie, Treig, and Afric. Stonebyres has been assessed for construction and operational noise effects. Afric and Kinross were used as representative properties in the construction noise assessment; operational effects were assessed for Stonebyres.

Property	Relevant Connection	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect KTR as a Whole
		(adverse, short-term) not significant during operation.			During operation, the combined effect would be none .		During construction, minor effects are predicted on visual amenity. No traffic or dust effects were predicted in the original assessments, and visual amenity and noise effects will be minor . It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be minor . Once operational, the only remaining effect will be associated with visual amenity which is minor . It is considered that the intra-connection construction and operational effects for the KTR Project as a Whole will be minor .
Waterside, Glenlee	P-G via K/ E-G	Moderate (adverse, short-term) significant during construction and Minor (adverse, long-term) not significant during operation.	None	X	Whether construction work on both connections occurs concurrently or consecutively, the assessment of effects presented in Chapter 14 confirms that the effect at Waterside would be minor prior to mitigation. During operation, the combined effect would be none .	X	Waterside will potentially experience five types of effects assessed in the EIA Report. During construction, Moderate effects are predicted on visual amenity. No traffic or dust effects were predicted in the original assessments, there will be no residual effects on PWS and noise effects will be minor . It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be Moderate . Once operational, the only remaining effect will be associated with visual amenity which is minor . It is considered that the intra-connection construction and operational effects for the KTR Project as a Whole will be minor .
Glenlee power station properties x 9 ²⁸ (included within Glenlee settlement in Chapter 7)	P-G via K/ E-G/ BG Deviation/ G-T	Moderate (adverse, short-term) significant during construction and Moderate (adverse, long-term) significant during operation.	n/a	X	Whether construction work on the connections occurs concurrently or consecutively, the assessment of effects presented in Chapter 14 confirms that the effect at the Glenlee power station properties could result in moderate temporary effects prior to mitigation. As above, restricting working hours at weekends would ensure that the effect is reduced to minor and is not significant , and works will be scheduled so that they do not occur concurrently in proximity to the closest properties at Glenlee (i.e. within 2100m of Carville and Dunston) to limit the potential for combined excessive noise levels. During operation, the combined effect would be none .	X	The properties at Glenlee power station (x9) will potentially experience four types of intra-connection effects associated with the KTR Project as a whole. During construction, moderate effects are predicted on visual amenity. Prior to mitigation a moderate effect is also predicted for noise. However, as noted in the adjacent column, this will be reduced to minor through the implementation of mitigation. No traffic or dust effects were predicted in the original assessments. It is considered that the intra-connection effects for the KTR Project as a Whole during construction will be moderate . Once operational, the only remaining effect will be associated with visual amenity which is moderate . As such, it is considered that the intra-connection effects for the KTR Project as a Whole will also be moderate once operational.
Blackbank	BG Deviation/ G-T	n/a	None	n/a	Whether construction work on both connections occurs concurrently or consecutively, the assessment of effects presented in Chapter 14 confirms that the effect at Blackbank would be minor prior to mitigation. During operation, the combined effect would be none .	X	Blackbank will potentially experience three types of effects assessed in the EIA Report. No dust effects were predicted in the original assessments during construction and there will be no residual effects on PWS. As noted in the adjacent column, prior to mitigation there will be a minor effect associated with construction noise. It is considered that the intra-connection effects for construction of the KTR Project as a Whole will be minor . There are no residual effects once operational therefore it is considered that the operational effects for the KTR Project as a Whole will be none .
Allangibbon Cottages x 4 ²⁹	P-G via K/	n/a	n/a	X	No residual noise effects were identified for Allangibbon cottages for either connection and there	X	Allangibbon Cottages will potentially experience three types of effects assessed in the EIA Report.

²⁸ Including the properties directly adjacent to the Glenlee hydroelectric power station (Carville, Dunston, Tummel, Rannoch, Tarbert, Navaar, Maree, Orrin, and Garry). Carville and Navaar have been assessed for construction and operational noise effects, Dunston was used as representative properties in the construction noise assessment.

²⁹ 2 Allangibbon Cottages was used as the representative property in the construction noise assessment.

Property	Relevant Connection	Residual Visual Effects	Residual Hydrology PWS Effects	Potential Traffic Effects	Residual Noise Effects	Potential Dust Effects	'Intra-connection' Effect KTR as a Whole
	E-G				will be no combined effects of the KTR Project as a Whole.		During construction, no residual effects have been identified for either traffic, noise or dust, therefore it is considered that the intra-connection effects for construction of the KTR Project as a Whole will be none . There are no residual effects once operational therefore it is considered that the operational effects for the KTR Project as a Whole will be none .
Glenlee properties x 9 ³⁰	P-G via K/ E-G/ BG Deviation/ G-T	n/a	None	X	No residual noise effects were identified for the Glenlee properties for any connection and there will be no combined effects of the KTR Project as a Whole.	n/a	The Glenlee properties will potentially experience three types of effects assessed in the EIA Report. During construction, no residual effects have been identified for either hydrology, traffic or noise, therefore it is considered that the intra-connection effects for construction of the KTR Project as a Whole will be none . There are no residual effects once operation therefore it is considered that the operational effects for the KTR Project as a Whole will be none .
Glenlee Kennels	BG Deviation/ G-T	Minor (adverse, short-term) not significant during construction Minor (adverse, short-term) not significant during operation.	None	X	No residual noise effects were identified for Glenlee Kennels for either connection and there will be no combined effects of the KTR Project as a Whole.	X	Glenlee Kennels will potentially experience five types of effects assessed in the EIA Report. During construction, minor effects are predicted on visual amenity. No residual traffic, noise, hydrology or dust effects were predicted in the original assessments therefore it is considered that the intra-connection effects for construction of the KTR Project as a Whole will be none . Once operational, the only remaining effect will be associated with visual amenity which is minor . It is considered that the intra-connection construction and operational effects for the KTR Project as a Whole will be minor .
Boatknowe	P-G via K/ G-T (R (south) removal)	No construction effects. Moderate beneficial effect associated with removal of the existing R Route (south) once the KTR Project as a whole is operational (beneficial, long-term).	n/a	X	No residual noise effects were identified for Boatknowe and there will be no combined effects of the KTR Project as a Whole.	X	Boatknowe will potentially experience four types of effects assessed in the EIA Report. No traffic, noise or dust effects were predicted during construction in the original assessments. Once operational, the only remaining effect will be associated with visual amenity which is moderate beneficial as a result of the removal of the existing R route (south). It is considered that the operational effects for the KTR Project as a Whole will be moderate beneficial .

³⁰ Including the properties at Glenlee (Mill House, Tower Cottage, Chestnut Cottage, Bell Cottage, Dairy Cottage, North Lodge, Glenlee Garden, Glenlee Park, and Stables Cottage).

Proposed Mitigation

- 17.68 Where mitigation has been identified for the individual assessments this is noted in **Table 17.7** above. No additional mitigation to address potential intra-connection effects associated with KTR as a Whole is required.

Residual Intra-Connection Effects

- 17.69 The residual 'intra-connection' effects for the KTR Project as a whole remain as set out in **Table 17.7** above. No new significant effects have been identified over and above those associated with the original assessments.

Monitoring

- 17.70 No additional monitoring in addition to the measures set out in the assessment chapters for the topics considered in this assessment is required. Where relevant, the requirement for monitoring is noted in **Table 17.7** above.

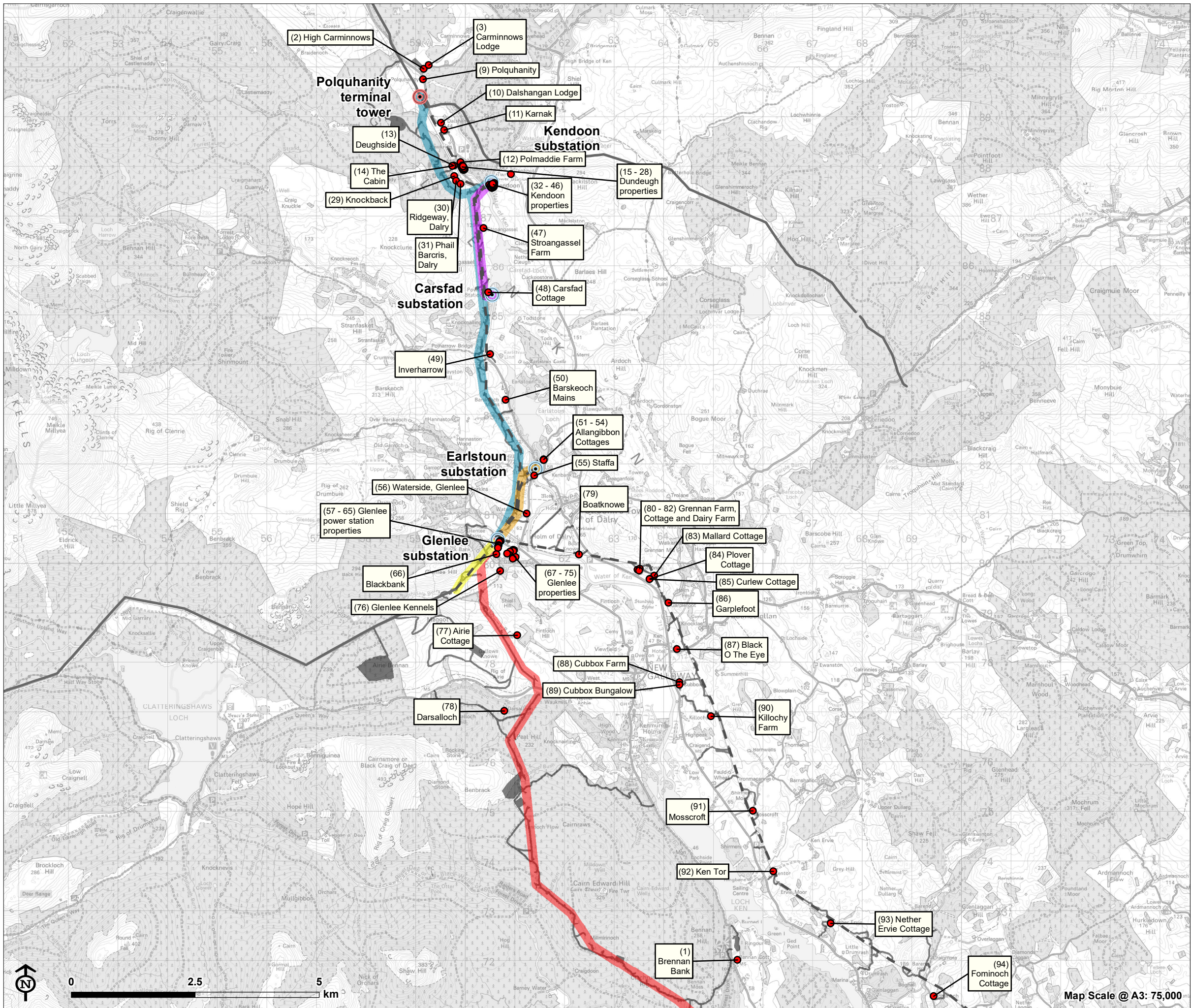
Summary of Intra-Connection Effects KTR Project as a Whole

- 17.71 Based on the information presented in **Table 17.7** no new significant 'intra-connection' effects are anticipated during construction and operation of the KTR Project as a Whole.

Summary of Significant Effects

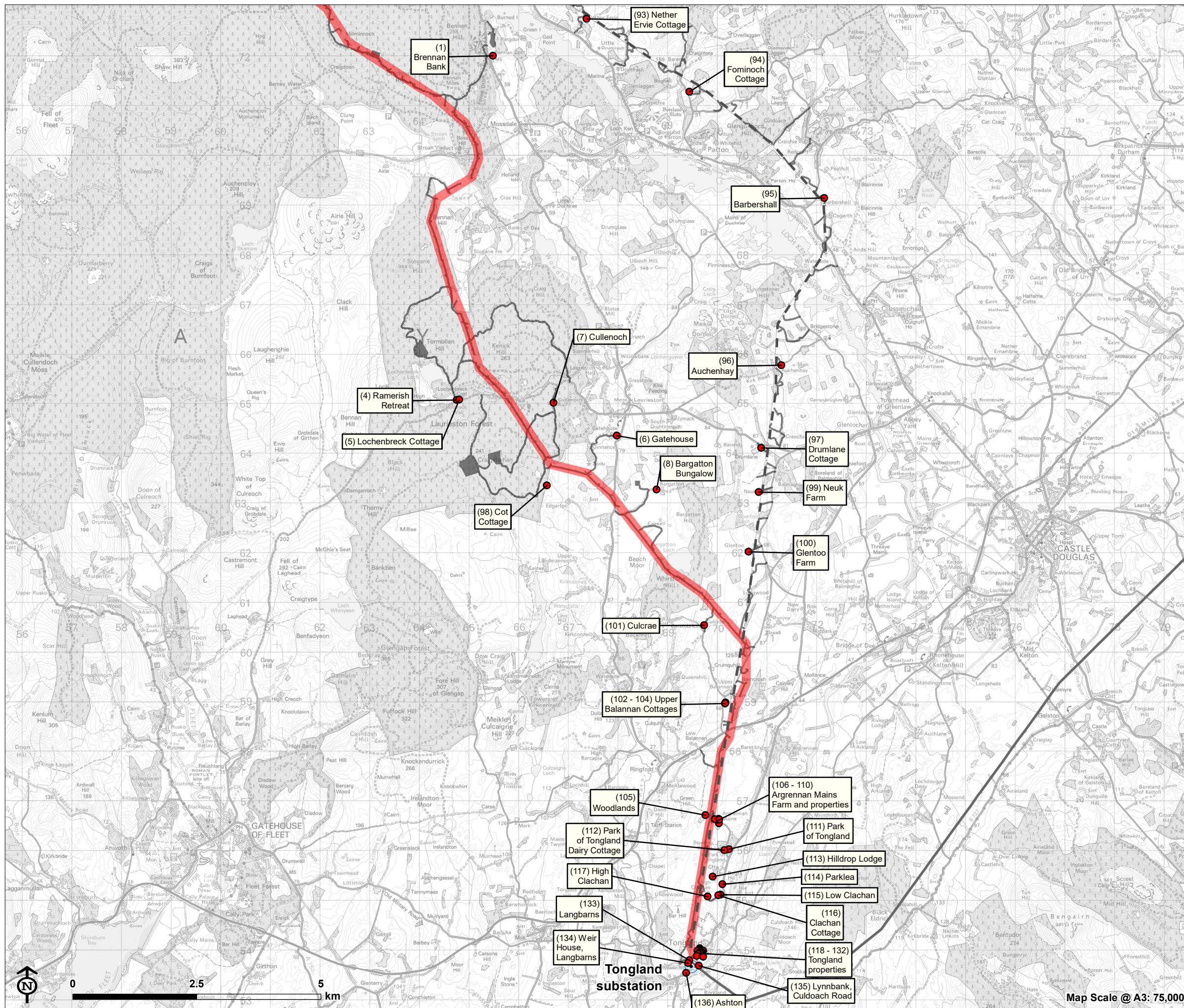
- 17.72 No additional significant 'intra-connection' effects are anticipated during construction and operation of the KTR Project individual connections or for the KTR Project as a Whole. Those effects that are significant are associated with the residual significant effects for the individual topic chapters both for each connection and for the KTR Project as a Whole.

Figure 17.3.1: Properties Assessed for Potential 'Intra-Connection' and 'Intra-KTR' Effects









- Polquhanity sealing end and terminal
- Substation and hydro electricity generating station
- Existing 132kV overhead line to be removed (following construction of the KTR Project)
- Existing network
- Polquhanity to Glenlee via
- Carsfad to Kendoon
- Earlstoun to Glenlee
- BG route deviation
- Glenlee to Tongland
- KTR infrastructure
- Property





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Figure 17.3.2: Properties Assessed for Potential 'Intra-Connection' and 'Intra-KTR' Effects

-  Substation and hydro electricity generating station
-  Existing 132kV overhead line to be removed (following construction of the KTR Project)
-  Existing network
-  Glenlee to Tongland
-  KTR infrastructure
-  Property

