20. Cumulative Effects

20.1. Introduction

20.1.1. This chapter presents the assessment of cumulative effects associated with the Proposed Scheme, which is described in detail in Chapter 4: The Proposed Scheme.

20.1.2. The assessment reported in this chapter considers two forms of cumulative impact comprising:

- In-combination effects: the combined effect of the Proposed Scheme together with other reasonably foreseeable developments (taking into consideration effects at the site preparation and earthworks, construction and operational phases).
- Effect interactions: the combined or synergistic effects caused by the combination of several effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction and operational phases), which may collectively cause a more significant effect than individually. A theoretical example is the combination of disturbance from dust, noise, vibration, artificial light, human presence and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site.

20.1.3. The assessments as reported in Chapters 7 to 19 have, where relevant, already taken into account the potential for cumulative impacts within a specific topic assessment as a result of a number of different activities affecting a single receptor. This cumulative impact assessment does not consider cumulative in-topic impacts.

20.2. Approach and Methodology

Approach

20.2.1. European Commission (EC) guidelines (European Communities, 1999) defines 'cumulative impacts' as follows: *"Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project"*. This chapter therefore includes consideration of both the impacts of the Proposed Scheme on receptors, and the impacts of other 'reasonably foreseeable' projects in line with the EC guidelines.

20.2.2. Based on Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 4 LA 104 'Environmental assessment and monitoring' (LA 104), the cumulative assessment has assessed cumulative effects which include those from:

1. a single project (e.g. numerous different effects impacting a single receptor) (Effects Interactions) and
2. different projects (together with the project being assessed) (In-combination Effects).

20.2.3. The guidance provided in LA 104 has been primarily used to inform the approach to this assessment; however, other relevant guidance has been drawn on where appropriate. This includes The Planning Circular 1/2017: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (Scottish Government 2017) and The Scottish Government's Planning Advice Note (PAN) 1/2013 'Environmental Impact Assessment' which states *"The assessment of cumulative impacts provides an important opportunity to consider and address the impacts of development as a whole and is likely to be facilitated by effective co-ordination of specialist inputs"*.

20.2.4. No comments were received from the A83 Environment Steering Group (ESG) on the cumulative methodology included in the Environmental Impact Assessment (EIA) Scoping Report.

Study Area

20.2.5. A 3km Study Area (as shown on Volume 3, Figure 1.2 Environmental Features) has been established due to the scale of the Proposed Scheme and other topic assessment zones of influence. The Study Area corresponds to the maximum extent of Study Areas used for the EIA Report, with the exception of an extension of 6km for European Sites designated for eagle species in Appendix 11.1: Habitat Regulations Appraisal. This 3km Study Area can be regarded as the Zone of Influence of the Proposed Scheme together with other projects as defined by LA 104.

20.2.6. Consideration has also been given to other projects which were included in a review of the Argyll and Bute Council Planning Portal, the Energy Consents Unit, Argyll and Bute Local Development Plan 2, LLTNP Local Development Plan: Action Programme, the LLTNP Planning Portal and other Transport Scotland projects being progressed on the Trunk Road Network. The study area for this review encompasses the A83 Trunk Road between Tarbert and Inverary, and the route of the wider diversion should the A83 Trunk Road and Old Military Road (OMR) be closed i.e. the A819 / A85 / A82 between Inverary and Tarbet.

Significance Criteria

20.2.7. The criteria outlined in Table 20.1 below has been used to determine the significance of a single project and different projects cumulative effects. Where cumulative effects were identified, the nature of these combined impacts were considered e.g. duration (temporary or permanent), extent, frequency and sensitivity of the receptor, and the significance determined using professional judgement.

Table 20.1 - Determining Significance of Cumulative Effects

Significance	Criteria of Cumulative Effects
Significant	Where the combined impacts of the Proposed Scheme or cumulative effects of the Proposed Scheme in association with other development upon an individual or collection of environmental receptors could potentially be significant (positive or negative). Effects at this level could be material in the decision-making process.
Not Significant	Where the combined impacts of the Proposed Scheme or cumulative effects of the Proposed in association with other development upon an individual or collection of environmental receptors would be likely to be not significant. Effects at this level would be unlikely to be material in the decision-making process.

Assessing Effect Interactions

20.2.8. Multiple impacts on a single receptor due to the Proposed Scheme could be both beneficial and adverse and could occur during the construction or operation all residual effects (i.e. after mitigation) have been considered within this assessment based on the assessments reported in Chapters 7 to 19 of this EIA Report. This is because multiple effects have the potential to lead to a significant combined effect. The assessment has focussed on the receptor and considered its capacity to accommodate changes likely to occur (based on professional judgement) because of the Proposed Scheme.

Step 1: Reviewing Residual Impacts

20.2.9. While all effects as a result of the Proposed Scheme have been included, the assessment pays particular attention to the impacts summarised in Chapter 22: Summary of Residual Significant Effects, which includes residual effects predicted to remain as significant after application of any proposed mitigation, as these generally have the greatest potential to contribute to a significant cumulative impact. A review of these residual effects from the individual topic assessments was undertaken and, using professional judgement, the potential for interaction with other topic areas was identified.

Step 2: Identification of Cumulative Effects

20.2.10. Where the same sensitive receptor is identified in relation to two or more individual topics, professional judgement was used to determine where multiple impacts combined to result in a cumulative effect

Step 3: Identification of Significant Cumulative Effects

20.2.11. Where cumulative effects were identified, the nature of these combined impacts were considered e.g. duration (temporary or permanent), extent, frequency and sensitivity of the receptor, and the significance determined using professional judgement. It is possible to have multiple significant residual impacts which in combination do not constitute an additional significant cumulative effect. However, it is also acknowledged that there is potential that multiple non-significant impacts in combination could result in a significant cumulative effect. Therefore, where information was available, non-significant residual impacts reported in the individual assessments of this EIA Report were also reviewed. Impacts of negligible or neutral significance were excluded from the assessment as by definition they are inconsequential.

20.2.12. The cumulative effects were assessed against the significance criteria outlined in Table 20.1 and professional judgement was used to determine whether or not the effects were considered to be significant.

Assessing In-combination Effects

Step 1: Identification of 'Reasonably Foreseeable' Developments

20.2.13. The Study Area was defined as up to 3km from the Proposed Scheme for the purposes of identification of 'reasonably foreseeable' developments.

20.2.14. DMRB LA 104 sets out the assessment of cumulative effects should report on: (i.e. 'reasonably foreseeable'):

- roads projects which have been confirmed for delivery over a similar timeframe;
- other development projects with valid planning permissions or consent orders, and for which EIA is a requirement and
- proposals in adopted development plans with a clear identified programme for delivery.

20.2.15. A review of planning applications submitted but not yet determined and other major developments beyond those that are 'committed' was undertaken to ascertain whether any should also be justifiably included in the assessment, by virtue of their scale, location or timing.

Step 2: Potential for Significant Cumulative Effects

20.2.16. An initial screening of developments was undertaken using professional judgement to 'scope out' any developments that were not considered likely to have in combination significant cumulative impacts to allow the assessment to focus on those that may potentially result in significant cumulative impacts in combination with the Proposed Scheme.

20.2.17. This involved a review of the developments based on their location, type or status of development and a review of relevant environmental information included within planning applications and published environmental assessments. This allowed the assessment to focus on those 'reasonably foreseeable' developments that may potentially result in significant cumulative effects in combination with the proposed scheme.

Step 3: Review of Cumulative Effects

20.2.18. A systematic, topic by topic assessment was then carried out on those developments retained following the initial screening, judged as 'reasonably foreseeable' to consider the potential different projects cumulative impacts. Professional judgement and the criteria set out in Table 20.1 above were used in conjunction to determine whether the effects were considered to be significant.

Limitations to Assessment

20.2.19. The cumulative effects assessment has relied on available information about 'reasonably foreseeable' developments at the time of writing, though this information is often limited in its detail to quantify cumulative effects precisely. Consequently, professional judgment was applied where necessary to qualitatively assess the likelihood of environmental impacts on receptors that may also be influenced by the proposed scheme.

20.3. Potential Cumulative Impacts

Effects Interactions Cumulative Impacts

20.3.1. Throughout the EIA Report, each discipline chapter has identified potential and residual impacts occurring at specific locations (receptor/resource) and where relevant, reference has been made between chapters where there may be the accumulation of impacts. Table 20.2 identifies and describes key areas along the Proposed Scheme where multidisciplinary cumulative impacts are particularly evident for the construction phase. In order to provide a concise and clear identification of the accumulation of different types of impact on the same receptor/resource.

Construction

Table 20.2 - Effects Interactions Cumulative Effects - Construction

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Two residential receptors (High Glencroe and Laigh Glencroe)	• There would be a slight beneficial residual noise effect at Laigh Glencroe when the OMR diversion route is in operation, traffic is approximately 65m further away from the property. • There would be a non-significant minor adverse effect for noise at High Glencroe during construction. • A slight adverse residual effect is identified to these properties due to disruption of access to the A83 and OMR. • A minor adverse residual effect to health and wellbeing to the residents of both houses would result due to construction works. This is due to amenity impacts, changes to access for community facilities, loss/disruption of public transport routes which therefore leads to disruption accessing health and social care services. • There is a slight adverse effect anticipated due to increased demand on health and recreational facilities and other essential services used by these houses from workforce in the area. • There is a negligible residual effect due to construction dust to the two residential receptors. Any adverse air quality effects would be temporary and minimised by the application of appropriate mitigation measures set out in the Construction Environmental Management Plan (CEMP). • A slight beneficial residual effect has been noted during construction on High Glencroe Private Water Supply (PWS).	Not significant
One private farm holding within Glen Croe (Farm Holding No.1).	• Moderate adverse residual landscape effects to Loch Lomond and The Trossachs National Park (LLTTNP) as a result of construction activities, therefore impacting on the wider setting of the private farm. • Viewpoint 5 in the visual assessment is representative of the private farm. Construction activity relating to the Proposed Scheme would be evident for the duration of the construction period, resulting in a large adverse effect. • A moderate adverse residual effect is anticipated due to anticipated land take of 12.37ha (14.10%) and effective land take as a result of viability issues with some remaining land parcels of 13.8ha (15.72% of farmland), and severance issues during construction works along OMR • A moderate adverse effect is anticipated due to severance issues during construction works along OMR and A83 and the disruption to access and or viability of agricultural buildings during the construction period. • A very large adverse effect has been identified to the Special Landscape Quality (SLQ) for Dramatic Pass Rest and Be Thankful, Famous Through Roads and Tranquillity.	Significant Adverse

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Beinn an Lochain Site of Special Scientific Interest (SSSI)	• Construction activities would result in localised permanent habitat loss (0.10ha) and temporary habitat loss (0.22ha), totalling 0.33ha, (0.024% of the SSSI by area) alongside risks of indirect impacts via pollution events or additional direct impacts through accidental incursion. Embedded and additional mitigation will be implemented to reduce impacts, resulting in a slight adverse residual effect. • Indirect impacts such as habitat damage / degradation from construction dust, noise, physical damage (via moving plant and pollution events) have been identified as potentially occurring during the during construction phase. With the incorporation of embedded mitigation no adverse effects are anticipated on the remaining SSSI habitat. • Loch Restil is hydrologically important in sustaining blanket bog associated with the Beinn an Lochain SSSI. Residual effects on the tributaries of the Loch Restil are slight adverse to water quality during construction. • A slight adverse residual effect anticipated due to anticipated land take of c.0.37ha (0.03%) from the periphery of the estate.	Not Significant
Watercourses	• Potential impacts to the headwaters / minor tributaries of the Croe Water for biodiversity include habitat loss; degradation through hard engineering and pollution; and disturbance of aquatic species. With embedded and additional mitigation measures enhanced habitats will make a positive contribution, and a slight beneficial residual impact. • There will be no direct losses in the Croe Water downstream of its eastern bifurcation, or High Glen Croe Tributary. Potential biodiversity impacts include degradation through pollution and disturbance of aquatic species. Enhanced habitats will make a positive contribution to biodiversity net gain, resulting in a large beneficial residual effect. • A slight adverse residual effect has been identified in relation to hydromorphology of Croe Water. Flow and sediment would ultimately reach the Croe Water, in the base of the glen, with a Slight Adverse effect to the supply of sediment. • For medium sensitivity watercourses a moderate adverse effect on hydromorphology is anticipated on 11 watercourses, a slight adverse residual effect on six watercourses and one neutral residual effect. • For low sensitivity watercourses a slight adverse effect on hydromorphology is anticipated on 17 watercourses, and a neutral residual effect on nine watercourses. • A moderate adverse effect from road water drainage on Croe Water, and tributaries of Croe Water is anticipated during construction. • A slight adverse effect from road water drainage on Loch Restil and tributaries of Kinglas Water are anticipated during construction. • A slight adverse residual effect for flood risk is anticipated for all flood risk receptors (One Most Vulnerable, 12 Highly Vulnerable, five Least Vulnerable and one Essential Infrastructure). Refer to Volume 4, Appendix 19.6 Flood Risk Assessment for a list of identified receptors.	Significant Beneficial and Adverse

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Walking, Cycling and Horse-Riding (WCH) Routes	• The OMR is an 18th Century military road and during construction would experience a slight adverse effect to cultural heritage. • Viewpoint 2 representative of users of the OMR has a very large adverse effect for visual impact during construction due to the works being evident. • Viewpoint 3A representative of walkers on the Core Path and OMR has a large adverse residual effect for visual impact during construction. Construction activity would be visible from the forest path and the OMR on the opposite side of the glen including felling and the addition of engineering features. • Viewpoint 10 is representative of walkers on waymarked trail at Beinn an Lochain. Construction activity would be noticeable but at this elevation would not detract from the focus of the view. This results in a large adverse residual effect. • Viewpoint 11 represents the Ben Donich walkers trail within the LLTNP. Construction activity would be evident across the entire mid-distance of the view span. This results in a very large adverse residual effect during construction. • During construction there would be a significant adverse effect to Noise on the OMR informal WCH route. • There is a slight adverse impact on public open space, community assets, recreation and leisure time activities within the wider area of the Proposed Scheme during construction, including impact of walking and cycling routes. • There is moderate adverse health and wellbeing outcomes from disruptions, amenity impacts and changes in access to public open space and other community facilities within the study and wider area. • There is a slight adverse residual effect to the OMR in respect to accessibility as it is recognised that this route would be effectively closed for WCH users who would be convoyed through the construction area. • There is a moderate adverse residual effect to the OMR during the construction period as WCH journeys along the OMR would be affected by the presence traffic leading to an adverse impact to safety as well as amenity (related impacts being noise, air quality and visual). • A minor adverse residual effect to Route 1 due to construction alongside the B828 would result in temporary impacts to the amenity of the journey (impacts being noise, air quality and visual) throughout the construction of the Proposed Scheme and active travel link. • A very large adverse residual effect to Route 6 and 11 as access would be severed during the construction period with no access possible to either the informal car park or the WCH route. • There would also be a slight adverse impact to the amenity of routes 6 – 11 as there are suitable alternatives in the local and wider areas for which access is not impeded. • A minor adverse residual effect to Route 13 is anticipated due to construction alongside the B828 that would result in temporary impacts to the amenity of the journey (impacts being noise, air quality and visual). • A minor adverse residual effect is anticipated for Routes 2,3,4,5,7,8, 9,10,12,14. While closure of these routes are not anticipated, there would be temporary impact to the amenity of the journey (impacts being noise, air quality and visual) throughout the construction period.	Significant Adverse

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Walking, Cycling and Horse-Riding (WCH) Routes	• A minor adverse residual effect is anticipated for Route 10 due to amenity related impacts to users of the Loch Lomond and Cowal Way associated with planting in adjacent BNG areas. • A very large adverse effect has been identified to the Special Landscape Quality (SLQ) for Dramatic Pass Rest and Be Thankful, Famous Through Roads and Tranquillity.	Significant Adverse
Rest and Be Thankful car park	• Viewpoint 6 in the visual assessment is representative of users of the Rest and Be Thankful Car Park and the Listed Stone. Construction activity would have a direct impact on the car park area to facilitate the improvements to the car park, the new WCH route and the B828 / A83 junction. As a result there is a very large adverse residual effect during construction. • Within the Rest and Be Thankful car park, the Category C Listed Rest and Be Thankful Stone would be the centre piece of a circular stone seating area and would retain its relationship with the OMR, enhancing its significance. While the DFS would be visible over the A83, this route is along the side of Beinn Luibhean, and views across the glen will not be affected. As a result, for cultural heritage there is a slight beneficial effect. • A large adverse effect has been identified on the Rest and Be Thankful viewpoint, due to disruption, temporary closure, changes to access, viability and amenity impacts. • A very large adverse effect has been identified to the Special Landscape Quality (SLQ) for Dramatic Pass Rest and Be Thankful and Famous Through Roads.	Significant Adverse

Operation

20.3.2. Table 20.3 identifies and describes key areas along the Proposed Scheme where multidisciplinary cumulative impacts are particularly evident for the operation phase, in order to provide a concise and clear identification of the accumulation of different types of impact on the same receptor/resource.

Table 20.3 - Effects Interactions Cumulative Effects - Operation

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Two residential receptors (High Glencroe and Laigh Glencroe)	• Slight adverse residual effect during operation to cultural heritage setting for High Glencroe due to the debris flow shelter. • There is a slight beneficial residual effect to the two properties with direct access from A83 and OMR. This would be due to improved access provisions along OMR, and with the A83 fully operation there would be reduced disturbance on the OMR. This would subsequently have a minor beneficial effect on health and wellbeing. • Moderate beneficial residual impact at High Glencroe due to provision of alternative PWS source, resulting in a long-term beneficial impact on water quality associated with the supply and permanently remove any potential for the supply to be affected by pollutants associated with routine runoff from the A83. • A slight adverse effect has been identified to the SLQ for Tranquillity.	Significant Beneficial
One private farm holding within Glen Croe (Farm Holding No.1).	• Slight adverse residual landscape effects to LLTNP in the winter of year one, remaining slight adverse by the summer of year 15. There are slight adverse residual effects to LLTNP, therefore impacting on the wider setting of the private farm. This is due to changes to landscape character and/or Special Landscape Qualities (SLQs) as a result of removal of landscape features, additional new permanent engineering measures. • Viewpoint 5 in the visual assessment is representative of the private farm. During operation, lighting and new structural elements would be new in the view though not direct in the view. A moderate adverse residual effect is expected for Winter of Year 1 (WY1) and a slight adverse residual effect is expected for Summer of Year 15 (SY15). • Improved access through provision of a layby at agricultural buildings associated with the private farm holding would lead to a slight beneficial residual effect. • There are also likely to be moderate adverse residual effects due to anticipated operational access and viability issues as a result of new field boundaries and loss of OMR ownership. • A slight adverse effect has been identified to the SLQ for Tranquillity.	Significant Adverse
Beinn an Lochain SSSI	• Indirect habitat loss and degradation via pollution have been considered however the Proposed Scheme drainage design incorporates sustainable drainage systems (SuDS) for the treatment of surface runoff from the carriageway prior to discharging back to the water environment. As a result, there will be a neutral residual effect on the SSSI. • Loch Restil is hydrologically important in sustaining blanket bog associated with the Beinn an Lochain SSSI. Residual operational effects on the tributaries of the Loch Restil are slight beneficial to water quality during operation.	Not significant

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Watercourses	• For Croe Water a slight adverse residual effect on hydromorphology is anticipated during operation of the scheme. • For medium sensitivity watercourses a moderate adverse effect on hydromorphology is anticipated on eight watercourses, a slight adverse residual effect on five watercourses, a neutral residual effect is anticipated on four watercourses and one watercourse has a slight beneficial effect. • For low sensitivity watercourses a slight adverse effect on hydromorphology is anticipated on seven watercourses, and a neutral residual effect on 19 watercourses. • In terms of water quality from routine run off at Croe Water the Proposed Scheme is anticipated to have a moderate beneficial residual effect. There is also a slight beneficial residual effect to accidental spillages at Croe Water. • There is anticipated to be a slight beneficial effect to the routine run off and risk of accidental spillages to the Tributaries of Croe Water, Tributaries of Kinglas Water and Loch Restil. • A slight adverse residual effect for flood risk is anticipated for all flood risk receptors (One Most Vulnerable, 12 Highly Vulnerable, five Least Vulnerable and one Essential Infrastructure). Refer to Volume 4, Appendix 19.6 Flood Risk Assessment for a list of identified receptors. • There would be a slight beneficial significant residual effect to the headwaters/Minor Tributaries of the Croe Water, including the eastern bifurcation of the Croe Water flowing under the A83 and Croe Water downstream of its eastern bifurcation, and High Glen Croe Tributary. It is likely road drainage design under the Proposed Scheme could provide betterment over the existing scenario in terms of river water quality.	Significant Beneficial and Adverse
WCH routes	• Viewpoint 2 representative of users of the OMR has a large adverse residual effect for visual impact at both WY1 and SY15. • Viewpoint 3A representative of walkers on the Core Path and OMR has a slight adverse residual effect for visual impact at both WY1 and SY15. During operation, the new structural elements would be clearly visible. • Viewpoint 10 is representative of walkers on waymarked trail at Beinn an Lochain. During operation the changes would be barely perceptible in the view. The green roof on the Debris Flow Shelter would have established. The focus of the view would not change. This results in a slight adverse residual effect for both WY1 and SY15. • Viewpoint 11 represents the Ben Donich walkers trail within the LLTNP. During operation the new elements including the DFS, retaining walls, and extensions to the HESCO barrier would be noticeable. This results in a moderate adverse residual effect for both WY1 and SY15. • There is likely to be a moderate beneficial residual effect to WCH routes due to improved access, safer and more reliable journeys along the A83 alongside moderate beneficial health and wellbeing benefits as a result of this improved access. • A large adverse effect has been identified to the SLQ for Famous Through Roads. • A slight adverse effect has been identified to the SLQ for Tranquillity. • A moderate adverse effect has been identified to the SLQ for Dramatic Pass Rest and Be Thankful.	Significant Beneficial and Adverse

Receptor	Summary of Residual Significant Impacts with Potential for Interaction	Cumulative Effect
Rest and Be Thankful Car Park	• Viewpoint 6 in the visual assessment is representative of users of the Rest and Be Thankful car park and the Listed Stone. During operation, the view would include the new car park elements and structural features (DFS and retaining walls). Lighting would be a new element. As a result a moderate adverse residual impact is expected for WY1 and SY15. • Provision of an active travel link from the Rest and Be Thankful car park and Viewpoint to the forestry track west of the OMR would create a moderate beneficial residual effect. • Minor beneficial residual effects are anticipated to health and wellbeing from improved provision / access to public transport due to reconfiguration of the existing bus turning / bus stop area at the Rest and Be Thankful viewpoint car park. • A large adverse effect has been identified to the SLQ for Famous Through Roads. • A moderate adverse effect has been identified to the SLQ for Dramatic Pass Rest and Be Thankful.	Significant Beneficial and Adverse

In-combination Effects Cumulative Impacts

20.3.3. As discussed in Section 20.2, both committed and other relevant developments (collectively referred to as 'reasonably foreseeable') were reviewed for their potential to have significant cumulative effects in combination with the proposed scheme. This review was undertaken in August 2024 and it should be noted that currently available information on these 'reasonably foreseeable' developments has been utilised to inform the assessment, and this is often not sufficiently detailed to quantify cumulative effects. As such professional judgement was used where necessary to qualitatively ascertain the likelihood of environmental impacts on receptors that may also be affected by the proposed scheme.

20.3.4. As part of the assessment the cumulative assessment including the list of in combination projects was issued to the A83 ESG in October 2024 for review and comment as part of a wider review of the draft EIA Report. The review by the ESG did not result in any additional developments being identified for inclusion in the assessment.

20.3.5. Table 20.4 below sets out the reasonably foreseeable developments which were considered for inclusion in the cumulative assessment.

Table 20.4 - Reasonably Foreseeable Developments Screening Assessment

Ref No.	Development Description	Screening Assessment
A83 Landslide Protection Works	Ongoing by Transport Scotland's Operating Company on the existing A83. The works are being progressed to provide resilience measures for the A83 combined with the rock fall and retentions measures.	The landslide protection works do not meet the criteria defined in DMRB LA 104 as a confirmed road project or a project subject to EIA. The works are classed as operational maintenance and emergency works to provide resilience measures for the A83 it cannot be determined when these operations will occur and whether they will overlap with the MTS works. These protection works will no longer be required with the construction and operation of the LTS and it is therefore predicted that no in-combination impacts would occur and the development is screened out of further assessment.
A83 Rest and Be Thankful Medium-Term Solution (MTS)	The purpose of the MTS is to deliver a safe, proportionate and more resilient diversion route along the OMR when the A83 is closed. The interventions will be in place prior to the construction of the LTS and reduce disruption to road users during the construction of the debris flow shelter. The MTS interventions include: • debris catch fences • HESCO barrier and earthworks bunds • widening of the existing single-track OMR to provide a longer length of two-way carriageway • targeted widening at sharp bends to ease movement for larger vehicles • junction improvements and • improved drainage and culverts.	Separate to the LTS, consent will also be sought under the Roads (Scotland) Act 1984 for the MTS. The draft Road Orders for the MTS will be accompanied by an EIA Report detailing the environmental assessment work undertaken. The MTS scheme includes the same OMR and geotechnical interventions included in the LTS (as detailed in Chapter 4: The Proposed Scheme, and as assessed in Chapter 7 – 19 of this EIA Report) however their inclusion in the standalone MTS scheme is focused on safety, operational capacity and resilience, and reduced journey times during period of debris flow risk. On the basis that the assessment of the OMR interventions is already covered within the LTS EIA Report it is not considered that any in-combination impacts would occur and the MTS is therefore screened out of further assessment.

Ref No.	Development Description	Screening Assessment
A82 Tarbet to Inverarnan	The Scottish Government's Case for Change (Strategic Transport Projects Review | Transport Scotland identified several measures to reduce congestion and improve traffic flows along several sections of the A82 Trunk Road between Tarbet and Inverarnan. The A82 trunk road forms a strategic link in Scotland's transport network, connecting the Highlands and Islands to Glasgow and the Central Belt. The proposed 17km scheme, which begins south of the village of Tarbet and ends just to the north of Inverarnan, has been designed, for the most part, to follow the route of the existing A82 carriageway. The Proposed Scheme includes: • a 7.3m wide carriageway, with 1m paved hard strips next to both sides of the road • a shared path on the lochside • Improved alignment and forward visibility • Vehicle laybys and • larger watercourse crossings, new drainage channels, road embankments and cuttings to improve resilience to storm events.	Full road closures will also be required during the construction of some aspects of the works. During these closures, road users will be required to follow the local diversion route, which will include a section of the A83 between Tarbet and Inveraray. The A82 between Tarbet and Tyndrum also provides a local diversion route during A83 closures at the Rest and Be Thankful. Having consideration for the A83 route to Argyll and Bute for impacts on the surrounding road network, Transport Scotland have confirmed that construction work will not take place on the A82 Tarbet to Inverarnan scheme at the same time as the works to avoid both routes being disrupted simultaneously. Given the A82 Tarbet to Invernan is 9km from the Proposed Scheme, in relation to the MTS there is not considered an in-combination impact that would occur and the A82 Tarbet to Inverarnan is screened out of further assessment. Given the distance from the scheme (c. eight miles), in relation to the MTS there is not considered an in-combination impact that would occur and the A82 Tarbet to Inverarnan is screened out of further assessment.
Arrochar & Succoth Development Proposals	As set out in the LLTNP Local Development Plan: Action Programme, there are several sites at Arrochar and Succoth that have been allocated as 'placemaking priorities' for development. Proposals included in the Action Programme relate to the development of Arrochar Village Centre, new housing, holiday accommodation and a floating pontoon on Loch Long. Timescales for development range between 2019 and 2024 depending on the site. Some sites have extant planning permission and others do not.	The closest scheme in these proposals is 8km from the Proposed Scheme, therefore there will be no overlap in impacts and, with the mitigation detailed in Chapter 21: Schedule of Environmental Commitments no in-combination effects are predicted and has therefore been screened out of further assessment.

Ref No.	Development Description	Screening Assessment
Argyll and Bute STPR2 Projects (throughout Argyll and Bute)	The Initial Appraisal: Case for Change - Argyll and Bute - STPR2 | Transport Scotland Report sets out the outcomes of the sifting exercise undertaken regarding the transport options generated by policy review, stakeholder consultation, and the project team. Following sifting, 96 options specific to the Argyll and Bute region remain in the process. There are many of these options that share common traits across the regions and many options which in isolation would not deliver the strategic improvements STPR2 is seeking to deliver.	No potential STPR2 schemes have yet been brought forward which may have potential impacts upon the Glen Etive and Glen Fyne SPA or the Loch Lomond Woods SAC, or on any of the topics assessed within the EIA Report. Given the uncertainty of any future proposals at present there is no potential for in-combination effects predicated, and therefore have been screened out of further assessment.
21/02455/MFF (Argyll and Bute Council) Beinn Reithe Fish Farm, Loch Long	Semi-closed fish farm and associated development including terrestrial components and access track upgrades (cross boundary application for the positioning of four moorings within the Argyll and Bute Council planning authority area). Application refused based on Adverse Effects on Site Integrity (AESI) to a Special Area of Conservation (SAC) not relevant to the Proposed Scheme (Endrick Water SAC). It is understood that, at the time of writing, an appeal process is underway but the outcome is not yet known. Should the appeal be successful, the construction period may potentially overlap with that of the Proposed Scheme.	This project is located approximately 5.8km south east of the Proposed Scheme, and downstream of the Proposed Scheme. Combined with likely effects of tidal movements within the sea loch, no in-combination effects are predicted and as a result this has been screened out of further assessment.
LT29 Creag Dhubh to Dalmally 275kV Overhead Line (OHL)	Construction of a new 13.3km double circuit 275kV OHL between a proposed new substation at Creag Dhubh and a tie-in to the existing Scottish Power Energy Networks 275kV OHL that runs from Dalmally to Inverarnan. Ancillary works include vegetation clearance, temporary construction hardstanding areas around each tower and winching position together with temporary and permanent new or upgraded access tracks.	This project is approximately 9.8km northwest of the Proposed Scheme. Therefore, there are no in combination effects anticipated and as a result this has been screened out of further assessment.
LT194 Creag Dhubh to Inveraray 275kV OHL	Construction of a new 9km double circuit 275kV OHL between a proposed new substation at Creag Dhubh and a tie-in to the existing SSEN 275kV OHL that runs from Inveraray to Crossaig. Ancillary works include vegetation clearance, temporary construction hardstanding areas around each tower and winching position together with temporary and permanent new or upgraded access tracks.	This project is approximately 11km west of the Proposed Scheme. Therefore, there are no in combination effects anticipated and as a result this has been screened out of further assessment.

20.4. Conclusions

20.4.1. A number of receptors have been identified and assessed as part of this cumulative assessment. Potential significant cumulative impacts of the Proposed Scheme have been identified for effect interactions at both the construction and operation stage of the Proposed Scheme. No cumulative impacts have been identified in relation to in combination cumulative effects.

20.4.2. During construction, effect interaction cumulative effects will not lead to any significant cumulative effects on the two residential receptors or Beinn an Lochain SSSI. Significant adverse cumulative effect interactions are anticipated even with the implementation of mitigation measures outlined in the CEMP for:

- One private farm holding within Glen Croe (Farm Holding No.1)
- WCH Routes and
- Rest and Be Thankful Car Park.

20.4.3. During construction watercourses are expected to have both significant beneficial and adverse cumulative effects.

20.4.4. During operation, the effect interaction cumulative effects will not lead to any significant effects on Beinn an Lochain SSSI. Significant beneficial and adverse cumulative effect interactions are anticipated and will not be reduced by mitigation for the below receptors;

- Two residential receptors
- Watercourses
- WCH routes and
- Rest and Be Thankful Car Park.

20.4.5. The private farm holding within Glen Croe (Farm Holding No.1) is anticipated to experience significant adverse cumulative effects.