Scottish & Southern Electricity Networks

Fanellan Hub 400 kV Substation and Converter Station Environmental Impact Assessment Report Volume 4 | Technical Appendices

Appendix 3.2 – Review of Black Bridge Works

February 2025

CONTENTS

1. INTRODUCTION AND BACKGROUND

1.1.1 This technical appendix presents a summary and high-level evaluation of wider access works required to facilitate the heavy loads for the Proposed Development. The proposed works are the replacement of the Black Bridge over the River Beauly to facilitate access to the site for large and Abnormal Load deliveries. The existing Black Bridge has limited structural capacity for heavy loads and hence requires replacement.

2. OVERVIEW OF BLACK BRIDGE WORKS

2.1.1 A replacement of the existing Black Bridge over the River Beauly will be required to allow heavy vehicle access, including Abnormal Indivisible Loads (AILs), to site. Structural options and delivery of the works are currently being consulted on with The Highland Council (THC) and so do not form part of the scope of this application. This Appendix has been prepared to provide a summary of potential environmental effects from the proposed works as well as anticipated further studies required. A full environmental assessment of the works, employing appropriate methodologies, would be undertaken once the overall approach to replacing the bridge is agreed with THC. Cumulative assessment of "in-combination" effects from the Black Bridge works with the Proposed Development is included in the relevant topic chapters.

2.1.2 At the time of writing, the Black Bridge replacement project is at an early stage of design. The consideration of effects presented in this Appendix is therefore based on the following assumed scope of works:

- Temporary construction areas to the north and south of the bridge ('possible works area') would be created to facilitate construction of the new permanent bridge;
- The existing road and embankments on the north approach to the bridge require to be re-graded to create the launch area (these will be reinstated to current road levels on completion);
- Some vegetation clearance will be required to facilitate access for plant and creation of the launch area;
- The bridge would be replaced online in the same location as the existing bridge;
- The current option for bridge replacement using an "overbridge" design assumes the existing deck, abutments and piers of the existing bridge would not be required;
- Bridge launch, accommodating for the overhead lines in vicinity will be achieved by launching in sections in order to achieve the overspan of the existing bridge and footprint of the wing walls. This will result in a new 90 m span bridge of bowstring arch truss design including a separated pedestrian / cycleway;
- Pouring of an in-situ concrete deck slab, waterproofing and surfacing;
- No bank reinforcement is anticipated to be needed;
- Following completion of the works the temporary work areas will be reinstated and the new bridge will become a council asset and adopted as part of the local road network for public use.
- Construction timeframe of approximately 12 months (this excludes subsequent controlled demolition and removal of the existing bridge using suspended platform techniques to avoid further road closures);
- No in-river works are anticipated.

3. SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

3.1 Introduction

3.1.1 The following section presents a high level review of potential environmental effects that could reasonably be expected to arise as a result of the works. This is based on the limited information available at the time of writing and has been developed using existing reports and field data (where applicable) as well as professional judgement and is subject to change. It is not intended to replace or substitute an EIA report.

3.2 Cultural Heritage

3.2.1 The Black Bridge is located 120 m to the north west of the Scheduled Monument of Kiltarlity Old Church (SM5570) and the Category B-Listed Kiltarlity Old Parish Church Burial Ground (LB8081). The woodland to the north and former sawmill buildings on the south edge of the river will provide screening of the bridge from the heritage asset locations. Therefore, there would likely be No Change within the setting of heritage assets from the redesign of the Black Bridge.

3.3 Landscape and Visual Amenity

3.3.1 The lower lying land in the study area and LCT 229: Enclosed Farmland is extensively settled and connected by an extensive road network. To the north-east the settlement of Kilmorack is located off the A831, overlooking the River Beauly and Black Bridge, which connects the local road network with the A831. The banks of the River Beauly are heavily vegetated alongside the rising slopes towards Fanellan and Torr Mor. The River Beauly is used recreationally by many visitors; there is a known fishing spot accessed from a car park next to Black Brack bridge; people visit the Kilmorack Cemetery (New – now an art gallery); and Kiltarlity / Tomnacross Cemetery and the ruined Church and cemetery at Black Bridge (Old Kilmorack burial ground).

Plate: 1: View north towards Black Bridge.

3.3.2 Black Bridge itself is approached from the north in a slight cutting, such that vehicles accessing Black Bridge are partially screened. It is edged with grass banks and trees. Balblair quarry and Balblair Wood are located c200 m to the east, with Kilmorack hydroelectric power station 300 m to the west. The southern approach to Black Bridge is heavily wooded. The bridge itself is utilitarian in character, allowing clear views from it of Kilmorack power station to the west, and scenic views along the River Beauly eastwards towards distant hills. The car park adjacent to the southern end of Black Bridge is clearly visible.

3.3.3 The Core Paths/ designated public path network within the LCT is relatively sparse, although Core Path IN03.04 - Lovat Bridge to Black Bridge directly connects Black Bridge along the River Beauly and through the Beaufort Estate to Lovat Bridge on the A831. A reasonable number of people pass through the area on the A833 and short sections of the A831/ A862 to access Black bridge cemetery (Old Kilmorack burial ground), Kiltarlity and paths alongside the River Beauly, so will be familiar with the landscape and any changes to it.

3.3.4 A number of holiday cottages are located within the Beaufort Estate to the south of the Core Path and Black Bridge, such as Cruives Lodge, around 700 m to the southeast. There are residential properties within 200 –

300 m to the south/ southwest of Black Bridge including Butlers Cottage and Broomhill, and within 100 m northwards off the A831. The properties to the north look southeast across a grass field edged with trees/ hedgerow towards the former Balblair quarry site which is edged with trees. Properties to the south are typically separated from Black bridge by woodland.

3.3.5 It is anticipated that landscape and visual receptors could experience the potential for effects to the landscape and visual setting. Vegetation clearance along the A831 and Fanellan Road would open up views towards Black Bridge and the laydown areas. Tall plant and machinery would be prominent in views appearing on the skyline for nearby residents, users of the River Beauly, people visiting the area and art gallery and locals the church and burial grounds. Road users travelling along the A831 and Fanellan Road would experience close proximity views of the laydown areas and traffic control measures on approach to Black Bridge.

3.3.6 Where possible, roadside vegetation should be retained and/or replaced as the permanent loss of vegetation would open up views to more industrial features, intensifying their influence on landscape character and views. Consideration of the bridge setting should be made when finalising the design.

3.4 Ecology and Nature Conservation

3.4.1 The Black Bridge possible works areas are not located within any designated sites for natural heritage. The closest designated sites with functional/hydrological connectivity are the Beauly Firth Site of Special Scientific Interest (SSSI); Moray Firth Special Protection Area (SPA); and Inner Moray Firth Ramsar, which all occur 6.5 km downstream. Subject to the adoption of best practice construction measures and the implementation of the Applicant's baseline Species Protection Plans (SPP) and General Environmental Management Plans (GEMP), the Black Bridge replacement works are not considered to pose a particular risk of adverse impact on these designated sites.

3.4.2 Bat assessments were conducted during 2024 to the Black Bridge (Volume 3, Figure 9.2.1 Protected Species, Bat Baseline, Structure O55) and adjacent 'Old Mill' Building (Structure O13). No roosting bats were recorded using the bridge structure. However, bat roosts were identified within the Old Mill building, which is approximately 35 m from the bridge edge, and falls within a potential disturbance proximity to the bridge's possible works areas. Additional trees with Potential Roost Features for bats (PRFs) were also identified within potential disturbance proximity of the works areas.

3.4.3 Badger foraging signs were observed during July 2023 within 40 m of the possible works areas, confirming the activity of this species in the wider area. No potential or confirmed setts have been observed within a 30 m proximity to the bridge's possible works areas.

3.4.4 One visual sighting of an otter individual was observed during 2024 within the River Beauly at the Black Bridge, with additional spraints (otter droppings) recorded on the embankments of the River Beauly either side of the bridge. One confirmed otter resting site was identified during November 2024 (Figure 9.2.2 - Protected Species, Squirrel, Otter & GCN Baseline, Confirmed Resting Site O6) which is within disturbance proximity of the possible works areas.

3.4.5 Recent signs of beaver foraging as well as two potential beaver food caches were identified during November 2024, on the banks of the Black Bridge and on the small island in the channel at the bridge (Figure 9.2.2 - Protected Species, Squirrel, Otter & GCN Baseline). Whilst food caches are typically associated with the creation of lodges or chambered burrows and as a food resource for family groups during the winter, no protected beaver resting sites (i.e. lodges or chambered burrows) have been identified within a 50 m proximity of the bridge's possible works areas. Potential beaver slides and mammal paths were also observed on the small island.

3.4.6 A fish habitat suitability assessment of the River Beauly, undertaken during June 2024, highlighted that the watercourse shows potential to support Freshwater Pearl Mussel (FWPM) as well as migratory and breeding salmonids. Initial consultation with NatureScot confirmed historic records of FWPM in the River Beauly, with the closest record within approximately 1.5 km of the bridge. The local fishery board confirmed the availability of

electrofishing data collected close to the bridge during 2024, however, they do not hold FWPM records for this area.

3.4.7 It is anticipated that any works would be subject to additional pre-construction ecological surveys, including: bat; beaver; badger; otter; and FWPM surveys, and would be in accordance with standard and best practice construction measures to avoid any potential effects on protected species and the water environment as far as practicable. If required, additional protected species licencing and mitigation would be secured prior to construction commencing, as necessitated by survey findings. Subject to the adoption of best practice construction measures and the Applicant's SPPs and GEMPs, the Black Bridge replacement works are not considered to pose a particular risk of impact on these protected species. Trees are adjacent to the associated possible works areas, so their retention is recommended where possible.

3.4.8 A preliminary habitat survey was conducted during September 2024, to the possible works areas and their outer 250 m buffer. The survey did not identify areas with potential to be Groundwater Dependent Terrestrial Ecosystems (GWDTEs); priority peatland; or other habitats of elevated importance (e.g., EU Habitats Directive Annex 1 habitats). Subject to the adoption of best practice construction measures and the Applicant's GEMPs, and based on preliminary information and professional experience, the Black Bridge replacement works should not be expected to pose a particular risk of impact on the local habitat interests.

3.5 Ornithology

3.5.1 No active nest sites for Schedule 1 raptors, as recorded in 2023/2024, occurred within a likely Ecological Zone of Influence (EZoI) for disturbance by replacement of Black Bridge and its associated possible works areas. A historic red kite nest site was known from alongside the bridge but was not in use in 2023 and 2024. Ospreys breeding in the wider area may forage on the River Beauly near Black Bridge. A small section of the River Beauly will be affected by the Black Bridge development, but this represents a very small area in comparison to the overall extent of the River Beauly. Potential temporary displacement from foraging within the area of the Black Bridge is predicted to have a potential negligible effect on osprey.

3.5.2 Pre-construction bird surveys as part of embedded mitigation in the form of a bird protection plan will consider any potential changes in nest site locations for Schedule 1 raptors since the original surveys. If required, appropriate protection zones and seasonal working constraints will be applied.

3.5.3 The Fanellan Hub breeding bird survey area did not overlap with the Black Bridge's possible works areas. However, a small area of riparian woodland is noted to occur within the footprint of the Black Bridge possible works areas. This riparian area may include some additional passerine (songbird) species to those recorded within the Fanellan Hubs' survey area for the breeding bird survey. However, the same rationale used in the assessment of the breeding bird assemblage within the breeding bird survey area for the associated project can be applied to any additional passerine species. Passerines have relatively large populations and a fast reprodutive rate. Permanent habitat loss within the Black Bridge and its associated possible works areas' footprint is predicted to be small. Finally, embedded bird mitigation will be included during the Black Bridge construction works and the appointment of an Ecological Clerk of Works (ECoW) who will undertake bird nesting checks ahead of works and establish protection zones where required. Therefore, taking account of the relatively localised nature of the Black Bridge works in comparison to the extensive suitable habitat present in the wider area, minimal effects to passerine species are anticipated, however this would be confirmed through a more comprehensive evaluation.

3.5.4 The Black Bridge and construction areas are a good distance from designated sites with ornithological qualifying interests. Further to this, there is a lack of suitable habitat for many of those qualifying interests within and surrounding the area and its footprint is anticipated to be relatively small. Predicted adverse impacts to designated sites are considered highly unlikely.

3.6 Arboriculture

3.6.1 A tree survey conducted in October 2024 recorded 52 features consisting of 20 trees and 32 groups of trees. Of these, seven are high quality, 24 are moderate quality, and 21 as low quality. In general, the higher quality features are located further from the existing bridge and predominantly in agricultural land to the north.

3.6.2 Replacement of the Black Bridge is likely to require tree removal. It is anticipated that the majority of this will be within close proximity to the River Beauly. As such, the majority of tree removal is likely to include low quality features. Ancient woodland (LEPO) is located approximately 25 m from the River Beauly and so tree removal will be limited as far as possible and avoidance of removal of ancient woodland for the bridge structure itself, is anticipated.

3.6.3 Other construction activities such as construction of launching pads, storage of materials, movement of vehicles and use of compounds, have the potential to directly affect tree health and cause their removal. In order to promote retention of trees, tree protective measures will be required. These measures should be detailed within an Arboricultural Impact Assessment once a final design is selected. Design development should evolve to promote tree retention, where practicable, by utilising the survey data collected in October 2024.

3.7 Hydrology

3.7.1 SEPA's indicative flood risk mapping indicates that the Black Bridge is located in an area of high river flood risk on both the upstream and downstream banks. The Black Bridge works are unlikely to have a notable effect on river flood risk as the bridge will be single span and the area of impermeable surfaces in relation to the development will be minor in comparison to the wider catchment area. Based on secondary source information and with good practice measures, no flood risk effects are anticipated on nearby receptors.

3.7.2 The Black Bridge works have been included as a watercourse crossing as per SEPA's scoping opinion response. **Volume 2, Chapter 13 Hydrology, Hydrogeology, Geology, Soils Table 13.5 Watercourse Crossings** details the watercourse crossing of the River Beauly by Black Bridge that would be covered under the Controlled Activities Regulations.

3.7.3 SEPA data indicates that there are two water abstractions within 1 km of the proposed Black Bridge works:

- CAR/L/1011467 (Authorisation activity: Abstraction Monitoring Point; Abstraction Return; Abstraction Hydropower; Impoundment Hydropower), 330 m north-west of the proposed Black Bridge works; and
- CAR/L/5002035 (Authorisation activity: Water Resources - Abstraction; Water Resources - Mining and Quarrying), 300 m east of the proposed Black Bridge works.

3.7.4 The Black Bridge works are unlikely to have any effect on nearby SEPA abstractions due to the intervening distances and the application of good practice measures. It is also anticipated that in-water works will not be required to construct the new bridge.

3.8 Traffic and Transport

3.8.1 In relation to the replacement of the Black Bridge, the following points regarding Transport should be considered:

- The Highland Council have stated their opposition of routing though Kiltarlity, citing:
  "The local public roads through Kiltarlity between the A833 and the development site are not suitable for such construction traffic, and we will oppose any intention to make use of such routing for this development. We would also challenge the appropriateness of routing through the existing community at Kiltarlity when there is a more appropriate route from the A831 via the C1106."; and
- Receptors identified as likely to be affected by the associated works include the residential properties in Kiltarlity adjacent to the unclassified road network and users of the unclassified road network.

3.8.2 The Applicant recognises that The Highland Council wishes to avoid environmental effects related to construction traffic routing through Kiltarlity Village on sections of unclassified roads, located to the east of the site (on the C1108 and U1604 through Kiltarlity and up to the C1106, Fanellan Road). In order to maintain the current programme of the Proposed Development, the Applicant is proposing to use a temporary, alternative access route via the unclassified roads through Kiltarlity to deliver key construction equipment and materials to the Site.

3.8.3 The proposed associated works on the Black Bridge are anticipated to take a significant amount of time to design, obtain the necessary planning consent, and construct, and the Applicant is currently working with The Highland Council to understand the realistic timescale for completion.

3.8.4 It is expected that for the full duration of the works on Black Bridge, between the A831 and the C1106, that this route will be inaccessible during this time. It is considered that with the current programme for the Black Bridge works, that the works could be completed at some point between December 2026 and August 2027. Consequently, there is expected to be overlap with key stages of the Proposed Development which is expected to run from 2025 to 2028.

3.8.5 As the Black Bridge route will be inaccessible until some point between December 2026 and August 2027, temporary, alternative routeing through Kiltarlity Village (via the A833, C1108, U1604 and the C1106) has been considered for construction traffic associated with the Proposed Development. The full results of the assessment of this temporary, alternative routeing is considered within **Volume 2, Chapter 12 Traffic and Transport**, and at the time of writing, with the project information available, this was found to have, overall **minor adverse**, and **not significant** effects.

3.8.6 At present, estimations for the generation of construction traffic associated with the Black Bridge works are not available. Based on previous experience, and considering the form of the unclassified road network via Kiltarlity, which is expected to be utilised in construction traffic routing to the Black Bridge, the likely significance of effects can be predicted. Consequently, it is considered that the Black Bridge construction works have the potential to result in significant effects, particularly when considered in relation to the cumulative impact of construction traffic associated with the Proposed Development.

3.8.7 On balance, it is considered that routing through Kiltarlity Village is a temporary measure to enable construction to start within the Site, and that after the Black Bridge works are complete at some point between December 2026 and August 2027 that any traffic associated with the Proposed Development will use the preferred route from the A831 via the C1106 over the replaced Black Bridge.

3.8.8 Once the Proposed Development is operational, it is considered that the replacement of Black Bridge will encourage all operational traffic to route from the A831 via the C1106 to the proposed Site permanent access junction located 120 m west of the U1604, on the eastern boundary of the Site.

3.8.9 The likely effects associated with the anticipated operational traffic for the Proposed Development is considered within **Volume 4, Appendix 12.2 Transport Assessment**, and in the EIA within **Volume 2, Chapter 12 Traffic and Transport**. At the time of writing, with the project information available, this was found to have, overall **negligible** and **not significant** effects.

Summary of Potential Significant Effects

3.8.10 At present, estimations for the generation of construction traffic associated with the Black Bridge works are not available and, it is considered that based on previous project experience, the works have the potential to result in a significant impact on the unclassified road network. This is particularly pertinent when considered in combination with the impacts identified by assessment of the Proposed Development, which is expected to run concurrently, within **Volume 2, Chapter 12 Traffic and Transport**.

3.8.11 It is considered that routing through Kiltarlity Village is a temporary measure to enable construction to start within the Site. This temporary routing strategy will be supported by Public Road Improvements (PRIs) and a

range of Construction Traffic Management measures that will be agreed with the Principal Contractor and THC prior to the start of construction and will mitigate any potential significant effects identified by this high-level review.

3.9 Noise and Vibration

3.9.1 **Volume 2, Chapter 14 Noise and Vibration** has undertaken a high-level assessment of the Black Bridge works construction impacts. Based on the results shown for the construction phases of the Black Bridge works, construction noise at 36 NSRs is above the 55 dB Evening and Weekends criteria. The site establishment phase is expected to cause a maximum of 63 dB at Millcroft. Therefore, prior to the mitigation measures outlined in Chapter 14, construction noise results in High impact magnitude, assessed as Major Adverse impact and therefore significant due to being at least 5 dB over the 55 dB limit. Black Bridge site establishment works are not predicted to increase any noise at NSRs above the 65 dB limit and implementing the mitigation within Chapter 14 will lead to Not Significant residual effects.

3.9.2 The proposed Black Bridge works also have the potential to cause changes in road traffic noise due to construction phase development generated traffic at the residential properties in Kiltarlity adjacent to the unclassified road network. Consideration should be given to the potential for cumulative road traffic noise impacts once construction traffic routes and vehicle movements for the Black Bridge works are confirmed.

3.9.3 There are no vibration-sensitive receptors within 100 m of the proposed works area. Taking into account the distance between the Site and sensitive receptors, it is considered that significant effects are unlikely.

3.10 Socio-Economics

3.10.1 There is likely to be restricted access to users of the Black Bridge, which will result in temporary disruptions to vehicle and pedestrian access during the construction phase. Parking will still be unavailable on the south side of the bridge for recreation users who wish to access the trail on the north side of the bridge as well as the graveyard. Furthermore, during works on Black Bridge, access to the popular fishing spots located on the River Beauly directly below the bridge will be restricted. It should be noted that access to the rest of the river for fishing will not be affected, meaning anglers will be able to access the river just a few yards further downstream. As this disruption would only occur for a limited time and access to the majority of the river would be maintained, it is not expected that users of the river (such as anglers) would be affected.

3.10.2 The Black Bridge construction project is included in the socioeconomic impact assessment **(Volume 2, Chapter 16, Socio-economics, Tourism and Recreation)**, with its costs accounted for. Additionally, its location is considered in the tourism and recreation assessments, particularly in relation to the core path IN03.04, which runs between the northeast bank of Black Bridge and A862 Lovat Bridge. During the construction phase, there may be potential effects including restricted access for users of Black Bridge, however, these effects will be controlled and are not anticipated to have lasting consequences.