

Loch Kemp Storage Scheme - EIA Report (Additional Information)

Appendix 3.1: Updates to the Description of Development

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3. Updates to Description of Development

3.1 Introduction

- 3.1.1 This Appendix highlights any changes to **Volume 1, Chapter 3: Description of Development**, including associated figures and appendices, of the EIA Report, since the submission of the application for consent for the Loch Kemp Storage Scheme (the Proposed Development) under Section 36 of the Electricity Act 1989 in November 2023.
- 3.1.2 The following changes have been made to the layout of the Proposed Development following consultation with SEPA:
- One temporary site compound, which was previously located in an area of deep peat has been relocated inside the inundation area (near Dam 2);
 - A section of the main welfare compound has been removed to avoid an area of deep peat;
 - Potential borrow pit 1 (BP1) is now shown as a 'Proposed Borrow Pit', as this is the only borrow pit that is anticipated will be required for construction of the Loch Kemp Storage Scheme given it is required to construct the main access track into the site. The other 'potential borrow pits' would only be required if the material extracted from the tunnel extraction is not to a suitable standard to construct the dams; and
 - Potential borrow pit 4 (BP4) has been moved to the opposite side of the proposed access track so it would be located inside the inundation area (if required).
- 3.1.3 The Working Corridor has also been reduced to account for the changes to the Proposed Development and to minimise impacts to priority qualifying habitat within the Ness Woods Special Area for Conservation (SAC) around the powerhouse platform.
- 3.1.4 As a result of the revisions to the Proposed Development and post-submission consultation with the Scottish Environment Protection Agency (SEPA) and NatureScot, the following figures and appendices associated with **Volume 1, Chapter 3: Description of Development** of the EIA Report have been updated:
- Volume 2, Figure 3.1: Proposed Development;
 - Volume 2, Figure 3.8: Proposed Development with Working Corridor and Indicative Borrow Pit Excavations;
 - Volume 4, Appendix 3.4: Outline Spoil Management Plan; and
 - Volume 4, Appendix 3.5: Draft Borrow Pit Screening Assessment.
- 3.1.5 The changes to the Proposed Development, hereafter referred to as the 'Revised Development' are illustrated on **AI Figure 3.1a: Changes to the Proposed Development** and **AI Figure 3.1b: The Revised Development** of the Additional Information (AI). The reduced Working Corridor is illustrated on **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations**.

3.2 Dams and Upper Reservoir

No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.3 Underground Waterway System and Tunnels

No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.4 Lower Reservoir Works

- 3.4.1 A visitor centre, which would have been accessed by boat, was previously proposed as part of the powerhouse building. However, this visitor centre is no longer being considered as part of the Revised Development, due to a perceived lack of interest in the centre obtained through public consultations and engagement, as well as concerns raised by local stakeholders regarding competing sales. Concerns have also been raised by NatureScot in relation to the potential of the visitor centre to increase public accessibility to the Ness Woods SAC, leading to a further decline in its condition. It is also anticipated that the barrier net proposed as the fish deterrent system (see **AI Appendix 13.1: Updates to Mitigation Measures Proposed for Fish in the Loch Kemp Storage EIA Report, and the Shadow Habitats Regulations Appraisal Report** of the AI) could limit boat access to the quayside and pier for 3-4 months of the year during smolt season, including during the peak tourist season.
- 3.4.2 No other changes to description of the lower reservoir works provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report are proposed. However, it should be noted that the Working Corridor has been reduced to the north of the powerhouse platform, as illustrated in **Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations**. The Working Corridor has also been reduced to the north of the powerhouse platform to minimise impacts to priority qualifying habitat within the Ness Woods SAC.

3.5 Access

- 3.5.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.6 Advanced Works

- 3.6.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.7 Associated Works

- 3.7.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.8 Spoil Management

- 3.8.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report. However, it should be noted that **Volume 4, Appendix 3.4: Outline Spoil Management Plan** of the EIA Report has been updated to reflect the Revised Development and further consultation with SEPA. Further information is provided in the updated Outline Spoil Management Plan, which is included as **AI Appendix 3.4**.

3.9 Site Establishment

Site Establishment

- 3.9.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report. However, it should be noted that following consultation with SEPA, the temporary site compound near the more northerly surge shaft has been relocated to avoid an area of deep peat and reduce temporary land take, as illustrated on **AI Figure 3.1a: Changes to the Proposed Development** and **Figure 3.1b: The Revised Development**. The temporary site compound is now located inside the inundation area to the south of Dam 2. The Working Corridor has also been reduced where the temporary site compound has been removed, as illustrated on **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations**, to ensure that the deep peat in this area is not disturbed by construction activity.

Main Welfare Compound

- 3.9.2 The average number of workers stated on-site during construction in **Volume 1, Chapter 3: Description of Development** is c.430 workers. However, this value should state c. 356 workers on average would be working on site, as stated in **Volume 1, Chapter 20: Socio-economics and Tourism** of the EIA Report. This number would vary throughout the construction period dependent on works to be conducted.
- 3.9.3 No other changes to the description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report are required. However, it should be noted that following consultation with SEPA, the area of the main welfare compound has been reduced to avoid an area of deep peat, as illustrated on **AI Figure 3.1a: Changes to the Proposed Development** and **AI Figure 3.1b: The Revised Development**. The Working Corridor has also been reduced in this area as illustrated on **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations** to ensure no construction activity takes place in this area of deep peat.

Borrow Pits

- 3.9.4 Following consultation with SEPA, the Applicant has clarified that although eight 'Indicative Borrow Pit Excavations' are shown in **Volume 2, Figure 3.8: The Proposed Development with Working Corridor and Indicative Borrow Pit Excavations** of the EIA Report, it is anticipated that only one borrow pit (BP1) would be required. BP1 would be required to construct the new access track into the site from the B862 site access, to enable early stages of construction (prior to excavation of the main project structures). The volumes of materials required for this are to be confirmed during the detailed design and geotechnical investigations. However, it is anticipated that this material requirement can be met with material from only BP1.

- 3.9.5 The other borrow pit excavation areas identified and described in detail in **Volume 4, Appendix 3.5: Draft Borrow Pit Screening Assessment** of the EIA Report would only be required if there is a shortfall of structurally suitable material gained from the excavation of the pressure tunnels and other project structures due to lower quality rockfill than anticipated during the concept design.
- 3.9.6 Also following advice from SEPA, potential borrow pit 4 (BP4) has been relocated to the opposite side of the access track so it is located within the inundation area to reduce the overall temporary land take of the Proposed Development. Accordingly, the Working Corridor has also been reduced where BP4 has been removed, as illustrated on **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations**.
- 3.9.7 BP1 is shown as a 'Proposed Borrow Pit' in the Revised Development layout (see **AI Figure 3.1b**), whilst the remaining borrow pits (BP2-8) are each referred to as a 'Potential Borrow pit Location'. The extent of BP1 and each potential borrow pit (BP2-8) is illustrated in **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations**, included in the AI.
- 3.9.8 The following technical appendices from the EIA Report have been updated to reflect that only BP1 would be required for the construction of the Proposed Development and are included as Appendices to the AI:
- Volume 4, Appendix 3.4: Outline Spoil Management Plan;
 - Volume 4, Appendix 3.5: Draft Borrow Pit Screening Assessment; and
 - Volume 4, Appendix 14.1: Peat Management Plan.
- 3.9.9 If any of the potential borrow pit locations (BP2-8) shown on **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations** were to be taken forward due to lack of structurally suitable material being excavated from BP1, the pressure tunnels and other project structures, then the final Borrow Pit Screening Assessment, Spoil Management Plan and Peat Management Plan would be updated accordingly by the Appointed Principal Contractor to reflect this, in consultation with SEPA.

Forestry and Woodland

- 3.9.10 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.10 Site Traffic

- 3.10.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.11 Land Take

- 3.11.1 It is estimated that the permanent development footprint of the Revised Development would be approximately 120.26 ha, a reduction of 0.1 ha from the Proposed Development. During the construction period it is estimated that a further 79.03 ha would be temporarily required which would be reinstated following completion of the construction works, a reduction of 2.52 ha from the Proposed Development. For the purposes of calculating the land take of the Revised Development, an indicative Working Corridor has been developed by Fichtner Consulting Engineers

Ltd (Fichtner), as illustrated in **AI Figure 3.8: The Revised Development with Working Corridor and Indicative Borrow Pit Excavations** of the AI. This figure also includes the indicative borrow pit excavations detailed in **AI Appendix 3.5: Draft Borrow Pit Screening Assessment**. The anticipated above ground land-take requirements are set out in **Table 3.1** but would be subject to detailed design.

Table 3.1: Estimated Above Ground Land Take of the Revised Development

Development Component	Permanent Land Use (ha)	Change in Permanent Land Use (ha)	Additional Land Use during Construction (ha)	Change in Additional Land Use During Construction (ha)
Upper Reservoir Works, including dams, inlet / outlet structure, and the maximum Inundation area ¹ .	108.1 ha	0 ha	0 ha	0 ha
Powerhouse Platform Area at Lower Reservoir Works, including the Powerhouse Building, Quayside & Pier, Outlet Area and Access Tunnel Adit) ²	2.12 ha	0 ha	0 ha	0 ha
Surge Shafts (above ground) ³	0.48 ha	0 ha	0 ha	0 ha
Vertical Cable Shaft (above ground only) ⁴	0.03 ha	0 ha	0 ha	0 ha
Control Kiosks ⁵	0.03 ha	0 ha	0 ha	0 ha
New Track outwith SAC ^{6&7}	5.01 ha	0 ha	5.29 ha ⁸	0 ha
New Track within SAC ²	0.84 ha	0 ha	0 ha	0 ha
Upgraded Track outwith SAC ^{6&7}	0.7 ha	0 ha	1.1 ha ⁸	0 ha
Borrow Pits ^{6&9}	0 ha	0 ha	1.25 ha	- 0.25 ha
Fishing Lodge ¹⁰	0.005 ha	0 ha	0 ha	0 ha
Main Welfare Compound	0.77 ha ¹¹	0 ha	3.84 ha	- 0.38 ha
Other Hardstanding / Construction Areas (including construction compounds, welfare facilities, security compound, site offices, vehicle parking, concrete batching plants) ¹²	2.19 ha ¹³	-0.1 ha	67.55ha	- 1.89 ha
Total	120.26 ha	-0.1 ha	79.03 ha	- 2.52 ha
<u>Land Take Calculation Notes</u>				

- 1 - Excludes the area of the existing Loch Kemp and includes 0.44 ha land take within Ness Woods SAC at Dam 1 (and the surrounding inundation area) as described in **Table 10.6: Summary of Habitat Loss within Ness Woods SAC in Volume 1, Chapter 10: Terrestrial Ecology** of the EIA Report and the revised **Table 2: Change in Habitat Loss within Ness Woods SAC in AI Appendix 10.1** for the Revised Development.
- 2 - Area taken from **Table 10.6: Summary of Habitat Loss within Ness Woods SAC in Volume 1, Chapter 10: Terrestrial Ecology** of the EIA Report and the revised **Table 2: Change in Habitat Loss within Ness Woods SAC in AI Appendix 10.1** for the Revised Development.
- 3 - Assumes both circular surge shafts would be 0.24 ha each (based on a diameter of 55 m = 2376 m²).
- 4 - Assumes the vertical cable shaft hardstanding area would be 16 m x 16 m.
- 5 - Assumes the hardstanding area around each control kiosk would be 9 m x 10 m. There are three control kiosk proposed in total.
- 6 - Excludes access tracks, borrow pits and other hardstanding/ construction areas located inside the inundation area and tracks routed over dams as these are accounted for in the 'Upper Reservoir Works' land take calculation.
- 7 - Track areas calculated by track length x track width. Land take from cut and fill, passing places etc associated with the access tracks are accounted for in the land take calculation for the 'Other Hardstanding / Construction Areas', which accounts all remaining areas within the 'Working Corridor' (see note 12).
- 8 - Assumes all tracks constructed at / upgraded to 8 m would be reinstated to 4 m post construction.
- 9 - Includes area of BP 1 (100 m x 50 m), BP2 (100 m x 50 m) and BP4 (200 m x 25 m) as illustrated on **Figure 3.8** of the AI, as these borrow pits would be located outside of the inundation area. Borrow pit dimensions are taken from **Appendix 3.5: Draft Borrow Pit Screening Assessment** of the AI. All Borrow pit excavations are indicative (subject to further ground investigation works).
- 10 - Assumes 7 m x 7 m fishing lodge would be constructed (similar to size of existing fishing lodge).
- 11 - It is anticipated that a 0.77 ha area of the Main Welfare Compound would be retained as a maintenance area post construction. The remaining area of the compound would be reinstated.
- 12 - Accounts for all remaining areas within the 'Working Corridor', as illustrated on **Figure 3.8** of the AI.
- 13 - Accounts for the onshore Working Corridor Area within the Ness Woods SAC, as described in **Table 10.6: Summary of Habitat Loss within Ness Woods SAC in Chapter 10: Terrestrial Ecology** of the EIA Report and the revised **Table 2: Change in Habitat Loss within Ness Woods SAC in AI Appendix 10.1** for the Revised Development. It is anticipated that this would be permanent land take, as the track and lower reservoir works within the Working Corridor in the Ness Woods SAC have already been reduced as far as possible to minimise impacts on the designated site (see **Chapter 2: Design Evolution and Alternatives** of the EIA Report for further details) and the extensive cut that would be required to construct the track and powerhouse platform & building would make reinstatement challenging.

3.12 Environmental Management during Construction

Sensitive Locations

- 3.12.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

Micro-siting

- 3.12.2 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

Construction Environmental Management Plan

- 3.12.3 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

Peat Management Plan

- 3.12.4 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report. However, it should be noted that following discussions with SEPA, only one borrow pit is proposed for construction works (see Section 1.4). **Volume 4, Appendix 14.1: Peat Management Plan** of the EIA Report has been updated to reflect this and site layout changes in the Revised Development. The updated Peat Management Plan is included as **AI Appendix 14.1**.

Site Environmental Management

- 3.12.5 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

Waste Management

- 3.12.6 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report. However, it should be noted that **Volume 4, Appendix 3.4: Outline Spoil Management Plan** and **Volume 4, Appendix 14.1: Peat Management Plan** of the EIA Report have been updated following consultation with SEPA and to reflect the site layout changes in the Revised Development.
- 3.12.7 The updated reports are included as **AI Appendix 3.4** and **AI Appendix 14.1**, respectively.

Site Reinstatement

- 3.12.8 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report. However, it should be noted that **Volume 4, Appendix 10.7: Outline Habitat Management Plan (non-SAC)** has been updated following consultation with SEPA and to reflect the site layout changes in the Revised Development. Changes to the outline Habitat Management Plan are detailed in **AI Appendix 10.1: Updates to Terrestrial Ecology Assessment in the Loch Kemp Storage EIA Report, and the Shadow Habitats Regulations Appraisal Report**.

3.13 Construction Programme / Hours of Work

- 3.13.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.14 Construction Lighting

- 3.14.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.15 Operational Activities

- 3.15.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.

3.16 Decommissioning

- 3.16.1 No change to description provided in **Volume 1, Chapter 3: Description of Development** of the EIA Report.