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A9/A96

Inshes to Smithton scheme

Habitats Regulations Appraisal

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1 Introduction

1.1 Background

- 1.1.1 Transport Scotland is progressing plans for a single carriageway road connecting the A9 at Inshes and the A96 at Smithton in Inverness (A9/A96 Inshes to Smithton scheme, hereafter referred to as 'the proposed scheme'). The proposed scheme has been progressed through an iterative design process and described in detail in Section 3 (The Proposed Scheme).
- 1.1.2 Jacobs UK Limited (hereafter referred to as 'Jacobs') has been appointed by Transport Scotland to undertake a Habitats Regulations Appraisal (HRA) on the Design Manual Roads and Bridges (DMRB) Stage 3 design of the of the proposed scheme. This follows on from the HRA completed for the options for the proposed scheme at DMRB Stage 2 (Jacobs 2017) (see paragraphs 1.1.6 to 1.1.8).

History of the Proposed Scheme

- 1.1.3 In 2010, Transport Scotland commissioned Jacobs to undertake a DMRB Stage 2 route options assessment for the A96 corridor from Inverness to Nairn. The scheme was identified as part of the Strategic Transport Projects Review (STPR) (Jacobs, Faber Maunsell, Grant Thornton and Tribal Consulting 2008a and 2009a), which included the recommendation for a new link connecting the A96 and A9 (south of Inverness) which would provide relief for the Raigmore Interchange. The assessment considered a number of options for improvements to the A96 corridor and included a new dual carriageway road between Inshes on the A9 and Smithton on the A96. Further to addressing the recommendations of the STPR the design work was undertaken in order to support The Highland Council's Local Development Plan (The Highland Council 2012) proposals for the A96 corridor and improve the operation of the trunk road around Inverness.
- 1.1.4 Following the initial assessment, in February 2012, Transport Scotland and The Highland Council undertook a joint consultation on the emerging Local Development Plan (LDP) proposals and options for a dual carriageway trunk road between the A9 at Inshes and the A96 at Smithton. Feedback from the consultation highlighted a number of concerns regarding the scale of the proposals for the dual carriageway between Inshes and Smithton and the severance, accessibility and integrational aspects of the proposals. Following this feedback, the opportunity was taken to re-examine the wider context of the connection between the A9 and A96. In 2013, Transport Scotland commissioned Jacobs to undertake the A9/A96 Connections Study which was published in March 2016 (Jacobs 2016a).
- 1.1.5 Following the A9/A96 Connections Study, Transport Scotland commissioned Jacobs to undertake a DMRB Stage 2 option assessment for a single carriageway road connection between the A9 at Inshes and the A96 at Smithton. Further consultation and options appraisal was undertaken with Transport Scotland and The Highland Council to agree on options to be taken forward for DMRB Stage 2 appraisal. As part of this work, Jacobs was appointed by Transport Scotland to undertake a DMRB Stage 2 HRA for the proposed scheme, as detailed below (paragraphs 1.1.6 to 1.1.8).

The Proposed Scheme at DMRB Stage 2

- 1.1.6 An HRA of the proposed scheme at DMRB Stage 2 was undertaken (Jacobs 2017). Due to the overlap between study areas between the proposed scheme and the proposed A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme it was considered appropriate to include the same 11 European/Ramsar sites at the initial assessment stage of the DMRB Stage 2 HRA (Jacobs 2017). This was deemed a suitable approach as the possible effects pathways and the potential for Likely Significant Effects (LSE) on European/Ramsar sites was similar for both schemes.

- 1.1.7 Following the screening assessment, it was considered that the proposed scheme would not result in any LSEs on any European/Ramsar sites. Based on the above conclusion it was determined that there would be no potential for in-combination effects with other plans and projects and Scottish Natural Heritage (SNH) agreed with the conclusions of the assessment.
- 1.1.8 The HRA of the DMRB Stage 2 for the proposed scheme, also recommended that further consultation with relevant stakeholders should be undertaken at DMRB Stage 3 to determine the appropriate levels of treatment of road runoff. In addition, the DMRB Stage 2 report also recommended that the DMRB Stage 3 report should re-assess the potential effects of the proposed scheme on the conservation objectives of the 11 European/Ramsar sites, or further sites that could be affected, as a result of changes during design development. Consultation details of relevance to this DMRB Stage 3 HRA are discussed in Section 2.4 (Consultation Responses).

1.2 The Habitats Directive and European/Ramsar Sites

- 1.2.1 The European Union (EU) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora was adopted in 1992, with the latest amendments to the Directive released on 13 May 2013 (hereafter referred to as the Habitats Directive). The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed in the Annexes to the Habitats Directive at a favourable conservation status. It also introduces robust protection for those habitats and species of European importance.
- 1.2.2 The Habitats Directive includes, under Article 3, provision for the designation of Special Areas of Conservation (SACs) for habitats listed on Annex I and for species listed on Annex II. SACs make up the Natura 2000 network of nature protection areas within the EU together with Special Protection Areas (SPAs) classified under Article 4 of the Birds Directive (Directive 2009/147/EC on the conservation of wild birds (codified version of Directive 79/409/EEC)). The Habitats Directive provides protection for SPAs classified under the Birds Directive, as well as SACs, from degradation and damaging activities through a hierarchical system of assessment.
- 1.2.3 Whilst not European site designations, wetland sites designated under the Convention on Wetlands of International Importance, named as Ramsar sites, are also relevant as they are afforded the same level of protection as European sites under domestic policy and are treated in the same way as the Natura 2000 network. Most Ramsar sites in Scotland are also either designated SPAs or SACs (SNH 2017) although not always sharing the same qualifying species.

1.3 Purpose of this Report

- 1.3.1 Article 6(3) of the Habitats Directive requires that '*any plan or project*' not directly connected with or necessary to the management of a Natura 2000 site, but likely to have a significant effect thereon, shall be subject to an Appropriate Assessment (AA) of its implications for the site in view of the site conservation objectives. The HRA informs the Competent Authority on their determination of the AA. This document comprises the first stage of the HRA process (Screening).

2 Requirement for HRA

2.1 Introduction

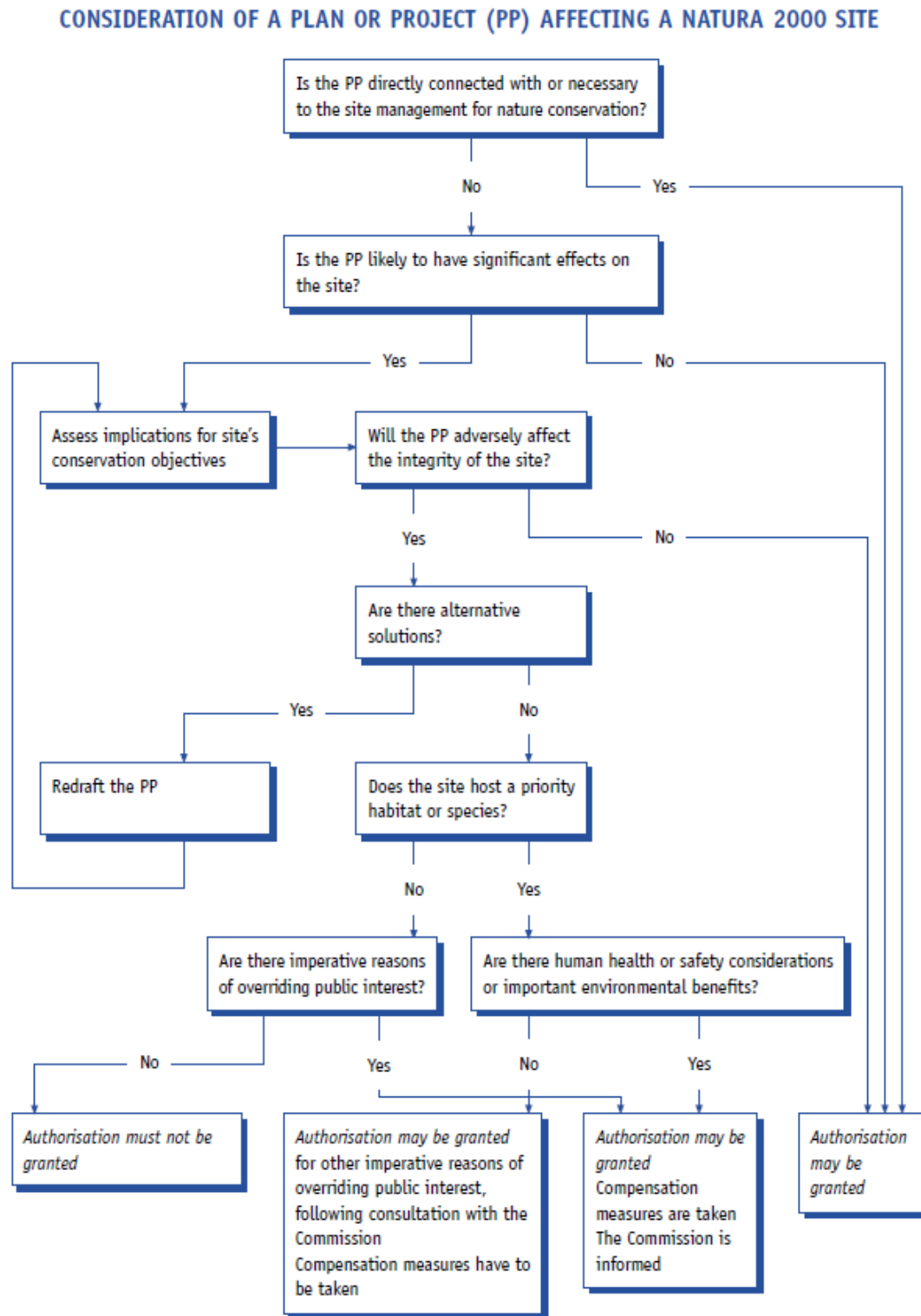
- 2.1.1 The Habitats Directive was transposed into British legislation via the Conservation (Natural Habitats &c.) Regulations 1994 (as amended for Scotland).
- 2.1.2 In the context of this appraisal, transport projects are a matter devolved to the Scottish Government who either delegate or act as the Competent Authority. This HRA is presented under the aegis of Regulation 48 of the Habitats Regulations which transposes the requirements of Article 6(3) of the Habitats Directive.
- 2.1.3 The Habitats Regulations require that an AA be undertaken by a Competent Authority where any plan or project not directly connected with or necessary to the management of the European/Ramsar site (i.e. a SAC or SPA, or candidate or potential SAC/SPA, or a Ramsar site), is likely to have a significant effect either individually or in combination with other plans or projects. The AA must be undertaken in relation to *'the implications for the site in view of the site's conservation objectives'*. HRA is the process (Section 2.2), which informs an AA, whereby a Competent Authority concludes as to whether there is no adverse effect on site integrity from a plan or project. With respect to this DMRB Stage 3 HRA, the Competent Authority will be Scottish Ministers.

2.2 The HRA Process

- 2.2.1 The HRA process establishes whether the proposal:
- is directly connected with or necessary for site management for nature conservation;
 - is likely to have a significant effect on the site; and
 - will adversely affect the site's integrity.
- 2.2.2 If the assessment cannot ascertain that the proposal would not adversely affect site integrity, then a consideration of alternative solutions is required. If no alternative solutions are available, a proposal may be carried out for Imperative Reasons of Overriding Public Interest (IROPI) as indicated by Article 6(4) of the Habitats Directive.
- 2.2.3 If the project will have an adverse effect then 'Stage Four' of the HRA process, and the provisions of Article 6(4), would need to be applied for the project to proceed. Compensatory measures should be considered only when the application of other safeguards, such as mitigation measures, are not sufficient (European Commission 2007).
- 2.2.4 The entire process can be broken down into four stages (Diagram 1 (European Commission 2001)), as follows:
- Stage One – Screening (should be undertaken in all cases);
 - Stage Two – Appropriate Assessment;
 - Stage Three – Alternative Solutions; and
 - Stage Four – Imperative Reasons of Overriding Public Importance (IROPI) and including in certain circumstances compensatory measures.
- 2.2.5 It should be noted that not all stages may be necessary in the HRA process. If the screening stage determines that a plan or project is unlikely to have significant effects on a European/Ramsar site, then subsequent stages are not required.

Diagram 1: The HRA Process (source: European Commission 2001)

**Flow chart of the Article 6(3) and (4) procedure (from MN2000)
in relation to the stages of the guidance**



2.3 Guidance

2.3.1 In undertaking this HRA the following guidance was referred to:

- Assessing Connectivity with Special Protection Areas (SPAs) (SNH 2013a);
- Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission 2001);
- Assessment of Implications (of Highways and/or Roads Projects) on European Sites (Including Appropriate Assessment) (Highways Agency, Scottish Government, Welsh Assembly Government and The Department for Regional Development Northern Ireland 2009);
- Communication from the European Commission on the Precautionary Principle (European Commission 2000a);
- Guidelines on the Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones (European Commission 2011);
- Habitats Regulations Appraisal of Plans: Guidance for Plan-making Bodies in Scotland, Version 3.0 January 2015 (David Tyldesley and Associates 2015);
- Habitat Regulations Appraisal (HRA) (SNH undated); and
- Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission 2000b and European Commission 2018).

2.4 Consultation Responses

2.4.1 The DMRB Stage 3: A9/A96 Inshes to Smithton Environmental Impact Assessment Scoping Report (Jacobs 2018) was issued to The Highland Council for comment in June 2018. As part of the consultation process, consultations were undertaken with key parties, including SNH and the Scottish Environment Protection Agency (SEPA). The Highland Council's response was received on 10 August 2018 and highlighted a number of observations and responses from their internal and external consultations (The Highland Council 2018).

2.4.2 SNH agreed with the sites identified for inclusion in the proposed DMRB Stage 3 HRA, based on information provided pertaining to the DMRB Stage 2 assessment.

2.4.3 The response from SEPA stated that *'For all linear infrastructure projects to date, as highlighted in the Scoping Report, SEPA expect to see a minimum of two levels of surface water treatment'*.

2.4.4 Further detail on the consideration of these consultation responses are provided in Section 3 (The Proposed Scheme) and in Section 4 (Stage One: Screening Assessment).

3 The Proposed Scheme

3.1 Introduction

3.1.1 The proposed scheme would connect the A9 Perth – Inverness Trunk Road near Inshes to the A96 Aberdeen – Inverness Trunk Road at Smithton, where there is no existing route at present. The proposed scheme would also include a lane gain/lane drop arrangement on the A9 Perth - Inverness Trunk Road southbound carriageway between Raigmore and Inshes junctions.

3.2 Scheme Design

3.2.1 The proposed scheme has been developed through an iterative design process, with consideration from a wide range of environmental and engineering specialists, as well as consultation with statutory and non-statutory consultees. Further details of the consultation which has been undertaken are provided in Chapter 6 (Consultation and Scoping) of the Environmental Impact Assessment Report (Jacobs 2019).

3.2.2 The preferred route for the proposed scheme was identified upon completion of the DMRB Stage 2 assessment, which assessed the potential environmental constraints associated with a number of route options.

3.2.3 The proposed scheme comprises approximately 3.2km of new single carriageway (mainline and side roads), to improve the road network between the existing A9 and A96.

3.2.4 The proposed scheme would commence to the west of the A9, with a new overbridge running parallel and to the south of the existing Inshes Overbridge (P01), which would be provided to accommodate two lanes of traffic in each direction of travel. The proposed scheme would connect to The Highland Council's Inshes Junction Improvements – Phase 2 to the west of the new overbridge. A lane gain/lane drop arrangement on the A9 southbound carriageway between Raigmore Interchange and Inshes Junction would be included as part of the proposed scheme.

3.2.5 The wide single carriageway element of the proposed scheme would commence at the existing junction between the U1058 Caulfield Road North and the B9006 Culloden Road. This section of road would be widened for approximately 300m to two lanes in a southbound direction and one lane in a northbound direction. North of the proposed Cradlehall Roundabout a new single carriageway would be provided travelling in a north-easterly direction to a new roundabout in the vicinity of Cradlehall.

3.2.6 The proposed Cradlehall Roundabout would be a four-arm roundabout connecting the proposed scheme to the local road network. The access to Inverness Campus and the U5096 Castlehill Distributor Road would be locally realigned. The proposed scheme would cross over the Highland Main Line Railway via a new overbridge (PS03) and pass to the east of the Scheduled Monument 'Ashton Farm Cottages, ring ditch 415m SW and pit circles 460m WSW of' (hereafter known as the Scheduled Monument).

3.2.7 The proposed Eastfield Way Roundabout would be a four-arm roundabout and provide a connection to the Inverness Retail and Business Park, as well as a field access to the east. The proposed scheme would then continue to the east of Ashton Farm and tie into the proposed grade separated A96 Smithton Junction, to be delivered as part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme.

3.2.8 Facilities for Non-Motorised Users (NMUs), which includes pedestrians, equestrians and cyclists, are an integral feature of the proposed scheme. For example, the proposed scheme incorporates a NMU shared use facility adjacent to the northbound and southbound carriageway within the section to the east of the A9.

- 3.2.9 There are a number of new structures included within the proposed scheme. These include two principal structures and eight new culverts where the proposed scheme crosses local watercourses. The key structures are the proposed Inshes Overbridge (PS02) and the Cradlehall Railway Bridge. The proposed Inshes Overbridge (PS02) is a new overbridge running parallel and to the south of the existing Inshes Overbridge (PS01) which would have two lanes travelling westbound; the bridge would therefore accommodate two lanes in each direction of travel. The Cradlehall Railway Bridge (PS03) is intended to carry the proposed alignment over the Highland Main Line Railway.
- 3.2.10 Local roads would be upgraded as necessary to maintain access from the existing road network to the proposed scheme.
- 3.2.11 Further details of the proposed scheme are provided in Chapter 4 (The Proposed Scheme) of the Environmental Impact Assessment Report (EIAR) (Jacobs 2019).

3.3 Drainage Systems

- 3.3.1 The existing treatment of road runoff from the A9 between Inshes and Raigmore Junction, A96 from Raigmore Junction to the junction with the C1032 Barn Church Road and the local road network (including the A8082 Sir Walter Scott Drive and B9006 Culloden Road) is generally limited, consisting predominantly of kerbs and gullies which discharge untreated road runoff to the nearest watercourses, which themselves discharge into Longman Bay (Moray Firth). There are some limited sections of filter drains within the roadside verges, which provide an initial level of treatment for road runoff. Road runoff from the car parks and road network of Inverness College (University of Highlands and Island (UHI)) is treated by two levels of Sustainable Drainage Systems (SuDS) treatment (filter drains/vegetated strips/swales and then retention ponds/detention basins).
- 3.3.2 It is a requirement under the Water Environment and Water Services (Scotland) Act 2003 and the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (Controlled Activities Regulations) CAR)) that pollution is managed and discharged correctly. In accordance with the aforementioned legislation, it is a requirement that any new developments with surface water drainage discharging to the water environment incorporate SuDS into the design. SuDS are designed to treat pollutants and attenuate runoff to acceptable levels, as stipulated by SEPA, before discharge to watercourses.
- 3.3.3 The proposed scheme would therefore include SuDS wetlands, filter drains and swales in order to ensure legislative compliance (Figures 1 and 2). Two levels of conventional SuDS treatment would be provided for all drainage catchments. The proposed SuDS features would be located, where practical, outside the 0.5% Annual Exceedance Probability (AEP) (200-year) functional floodplain; where this is not possible, they have been designed to ensure that they are not inundated by the 3.33% AEP (30-year) flood event. The SuDS have been designed to attenuate the 0.5% AEP (200-year) rainfall event plus climate change with appropriate freeboard and discharge at the 50% AEP (2-year) 'greenfield' runoff rate.
- 3.3.4 SuDS features are proposed to outfall to the following watercourses in the area:
- Cairnlaw Burn (SWF08);
 - Beechwood Burn (SWF03);
 - Scretan Burn (SWF04); and
 - Inner Moray Firth Estuary (indirectly).

3.4 Lighting

- 3.4.1 There would be an increase in artificial lighting in the area through permanent street lighting and lit signage located along the route, specifically at the junctions (Eastfield Way Roundabout and

Cradlehall Roundabout), the proposed Inshes Overbridge (PS02) and along the A9 southbound lane gain/drop. Following design refinement in April 2019 it was confirmed that lighting is to be installed along the A9 south of Inshes Overbridge, extending south of the draft CPO boundary for a length of approximately 624m. The design of the proposed scheme seeks to reduce or avoid excessive, unnecessary and obtrusive lighting by appropriate selection, location and arrangement of lighting elements, while adhering to the necessary safety and design standards.

- 3.4.2 To minimise light pollution from the proposed street lights, Light Emitting Diodes (LEDs) or similar which can be dynamically controlled according to traffic flows are proposed to be utilised. LEDs would also be used to prevent unnecessary glare or light spill from proposed lighting columns and fixtures. This choice of lighting enables maximum spacing between lighting columns and ensures that the minimum amount of lighting is used, without compromising safety.

3.5 Construction Programme and Buildability

Construction Programme

- 3.5.1 It is anticipated that construction of the proposed scheme would not commence before 2021 (subject to completion of statutory procedures) and the overall construction period is expected to be between 18 and 24 months.
- 3.5.2 Although it is envisaged that the proposed scheme would not be built until the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme has been constructed, it has been assumed that the two projects could be undertaken concurrently. The Environmental Statement for the A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme (Jacobs 2016b) anticipated that construction of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme would not commence before 2019 (subject to completion of statutory procedures) and noted that the overall construction period of that scheme would be expected to be between 36 and 48 months. At the time of writing (April 2019) it is now understood that the scheme is proposed to commence construction in 2021, with the proposed duration remaining unchanged.

Construction Compounds and Haul Routes

- 3.5.3 The locations of site office and construction compounds and haul routes would be the responsibility of the appointed contractor. The construction compounds would provide toilet facilities, mess facilities, and parking for office-based staff and site operatives. In addition, stores and workshop areas (located within or near the compounds) would be provided for the construction phase.

Construction Drainage

- 3.5.4 Under The Water Environment (Miscellaneous) Regulations 2017, which supplement The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), it is a requirement for any construction site over 4ha to hold a CAR Construction Site Licence. This licence must include a Pollution Prevention Plan which, following a risk-based approach, would detail a management train (a hierarchy of treatment that is used in the development of SuDS) and measures to prevent pollution of the water environment. Therefore, during its construction period, the proposed scheme would be required to adopt systems to control water pollution. The adopted systems/control measures would take cognisance of the following:
- Control of water pollution from linear construction projects-C648 (CIRIA 2006); and
 - Guidance for Pollution Prevention (GPP)/Pollution Prevention Guidelines (PPG) (NetRegs 2018).
- 3.5.5 Construction drainage systems/SuDS would be implemented prior to any significant earthworks to control/attenuate/treat runoff during construction ensuring compliance with legislation.

4 Stage One: Screening Assessment

4.1 Introduction

4.1.1 This section makes up the Stage One 'Screening' of the HRA process for the identified sites in relation to the proposed scheme. It includes the following steps:

- determining whether the project is directly connected with or necessary to the management of the site;
- identifying the LSEs on European sites; and
- presenting an outcome of the screening stage.

4.1.2 The proposed scheme is not directly connected with the management of any European/Ramsar site.

4.1.3 A road scheme can have a wide variety of effects on species and habitats for which a site is designated such as:

- habitat loss and/or fragmentation;
- disturbance (noise, vibration, movement and lighting); and
- changes in water quality or air quality that could have detrimental effects on habitats or species.

4.1.4 These may also affect a species or habitats indirectly, such as through impacts on supporting habitat or a prey species.

4.1.5 In light of the People over Wind and Sweetman ruling (People Over Wind and Sweetman 2018), only measures that constitute part of the project design and are not specifically intended to avoid or reduce effects on European site features would be considered at HRA Stage One (Screening).

4.2 European/Ramsar Sites

Screening of Sites for Assessment

4.2.1 This DMRB Stage 3 screening takes into consideration the screening undertaken at DMRB Stage 2 (Section 1.1: Background) and the response from consultation on the DMRB Stage 3 Scoping Report (Jacobs 2018).

4.2.2 The DMRB Stage 3 Scoping Report identified three European/Ramsar sites to include in the HRA:

1. the Inner Moray Firth Ramsar,
2. the Inner Moray Firth SPA
3. the Moray Firth proposed Special Protection Area (pSPA)

4.2.3 The Scoping Report was submitted to SNH for consultation through The Highland Council (as discussed in Section 2.4). The response from The Highland Council on the Scoping Report, which included SNH's consultation response, was received on 10 August 2018 (The Highland Council 2018). SNH agreed with screening out the Moray Firth SAC at DMRB Stage 2 and agreed with the list of European/Ramsar sites to be included within the HRA for DMRB Stage 3. The locations of these European/Ramsar Sites in relation to the proposed scheme are shown on Figure 1.

- 4.2.4 Details of the qualifying interests, condition assessments and conservation objectives for each of the three sites are presented in Appendix A1 (European/Ramsar Sites).
- 4.2.5 The proposed scheme lies at a distance of approximately 340m from the Inner Moray Firth SPA and Ramsar site and 840m from the Moray Firth pSPA. The proposed scheme is also connected to the sites (directly and indirectly) by three small watercourses which the proposed scheme crosses. The watercourses Scretan Burn (SWF04) and Cairnlaw Burn (SWF08) discharge directly into the Inner Moray Firth SPA/Ramsar site in Longman Bay, whereas Beechwood Burn (SWF03) discharges into the sites indirectly via Scretan Burn. The Inshes Burn (SWF02) flows under the Inverness Retail and Business Park and joins the Scretan Burn (SWF04) (Figure 2). Furthermore, the SuDS swale at Raigmore Interchange would treat road runoff associated with works to extend the existing southbound carriageway of the A9 between Raigmore Interchange and Inshes overbridge. The outfall of the Swale at Raigmore Interchange would be connected to the existing A9 drainage network before discharging north of Aberdeen to Inverness Railway Line at approx. NH 68722 45801.
- 4.2.6 Wintering bird surveys were conducted to inform the DMRB Stage 3 EIAR (Jacobs 2019) and this HRA. Survey methodology and data used to inform this assessment is presented in Appendix A2 (Wintering Bird Surveys).

4.3 Screening Assessment (Table 1)

- 4.3.1 It is a legal requirement to protect water systems from changes in water quality as a result of the construction and operation of road schemes. Measures to control water pollution and changes to water quality would be utilised during the construction stage of the proposed scheme and incorporated into its final design. As a result of the in-built design elements to ensure adherence to legislative requirements designed to protect the general water environment, changes to water quality are not predicted to occur; there would be no effects pathways as a result of pollution during construction or operation of the proposed scheme. Therefore, there are no LSEs on any designated sites, or their qualifying interests from the proposed scheme as a result of water quality changes.
- 4.3.2 All construction works, and the operational road, are outwith the three European/Ramsar sites being considered in the screening of LSEs. All three sites are located at distance from the proposed scheme (340m from the SPA/Ramsar and 840m from the pSPA), and are separated by landscape features including woodland, housing and railway infrastructure. Therefore, there would be no disturbance to the qualifying species within the designated sites from the construction or operation of the proposed scheme. Also, there would be no land-take, change in hydrological processes or direct disturbance impacts on the habitats or species of the SPA, Ramsar and pSPA.
- 4.3.3 There is evidence of some of the qualifying interests (curlew, greylag geese and oystercatcher) of Inner Moray Firth SPA and Inner Moray Firth Ramsar using fields within the area of the proposed scheme for foraging, loafing and roosting. However, analysis of the data, as discussed in Appendix A2 (Wintering Bird Surveys), indicates that both greylag geese and curlew use a variety of fields within the wider area, up to 5km from the proposed scheme, during the winter. Greylag goose numbers in the study area do not appear to be limited by the availability of habitat and the data show that geese forage within 50m of the existing A96 undisturbed, as discussed in Appendix A2 (Wintering Bird Surveys). A previous study to inform the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme showed geese only used approximately 2% of the total potentially available habitat in the area (Jacobs 2016b). Additionally, foraging site fidelity was low, the data showed that the geese did not continuously use the same fields for foraging and instead opted for preferred agricultural land use types at different stages in the winter. For curlew, similarly the species was recorded in variety of fields during the winter and were not limited by habitat availability. Curlew were also observed in large flocks foraging adjacent to the Aberdeen to Inverness Railway Line, exhibiting habituation to disturbance. Oystercatcher were not recorded within the fields within 500m of the proposed scheme. This species exhibited a limited distribution, only recorded in three fields north of the Aberdeen to Inverness Railway Line, at Allanfearn.

- 4.3.4 The data suggest that the habitats within the proposed scheme area, although used by a small number of qualifying species, do not represent important functional or supporting habitats for qualifying interests of the designated sites.

Table 1: Screening Determination of European/Ramsar Sites for the Proposed Scheme

Conservation Objectives	Distance/Connectivity to Proposed Scheme	Qualifying Interests (SNH SiteLink) (SNH 2019a, 2019b, 2019c)	Potential Effects and Commentary	Screening Conclusion	
UK9001624, 8515 Inner Moray Firth SPA					
<p>To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> • population of the species as a viable component of the site; • distribution of the species within site; • distribution and extent of habitats supporting the species; • structure, function and supporting processes of habitats supporting the species; and • no significant disturbance of the species. 	<p>The proposed scheme lies approximately 340m from the Inner Moray Firth SPA.</p> <p>It is hydrologically connected to the site (directly/indirectly) by; Cairnlaw Burn (SWF08), Scretan Burn (SWF04) and Beechwood Burn (SWF03) Furthermore, Inshes Burn (SWF02) flows under the Inverness Retail and Business Park, joining Scretan Burn.</p>	<ul style="list-style-type: none"> • Common tern, breeding 	<p><u>Disturbance</u></p> <p>Whiteness Head Site of Special Scientific Interest (SSSI) is the only part of the SPA where common terns breed (SNH 2013b). The proposed scheme is 15.8km from this part of the SPA and therefore it is considered that construction and operation of the proposed scheme would not result in any disturbance of common terns using the site.</p> <p><u>Air Pollution</u></p> <p>The habitats that breeding terns rely on (supralittoral sediments) are sensitive to nitrogen deposition and there is the potential for a negative effect due to impacts on the function and supporting processes of the species broad habitat type. However, a review of recent studies suggests that the impacts are greatest within the first 50 to 100m from roads, with evidence of vegetation being impacted by vehicle emissions up to 200m from roads (Smithers, Harris and Hitchcock 2016; Smithers, Brace, Brookes, Tsagatakis and Broomfield 2016). As the breeding terns are restricted to a small part of the SPA, 15.8km from the proposed scheme, it is concluded that there will be no impacts on the breeding common tern from air pollution associated with the construction or operation of the proposed scheme.</p> <p><u>Conclusion</u></p> <p>No effects pathways between the proposed scheme and breeding common tern could be identified. Therefore, there are no LSEs.</p>	<p>No LSE and therefore no requirement to progress to Stage Two AA</p>	
		<ul style="list-style-type: none"> • Osprey, breeding 	<p><u>Disturbance</u></p> <p>Consultation to inform DMRB Stage 2 and DMRB Stage 3 HRAs for the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme did not report any osprey nests within 2km of that proposed scheme (Jacobs 2015; Jacobs 2016b). Furthermore, breeding bird surveys to inform the EIAR (Jacobs 2019) have not identified any osprey nests within the area of the proposed scheme.</p> <p>The proposed scheme is generally unsuitable for breeding osprey as it is situated in an open, semi-urban area, comprising predominantly agricultural fields, which are subject to routine disturbance/management.</p> <p><u>Conclusion</u></p> <p>No effects pathways between the proposed scheme and breeding osprey could be identified. Therefore, there are no LSEs.</p>		<p>No LSE and therefore no requirement to progress to Stage Two AA</p>
		<ul style="list-style-type: none"> • Osprey, foraging 	<p><u>Disturbance</u></p> <p>Ospreys forage within the area of the Moray Firth and as the proposed scheme is physically separated from the waterbody, no direct impacts on foraging osprey</p>		

Conservation Objectives	Distance/Connectivity to Proposed Scheme	Qualifying Interests (SNH SiteLink) (SNH 2019a, 2019b, 2019c)	Potential Effects and Commentary	Screening Conclusion
			<p>(disturbance) are anticipated.</p> <p><u>Air Pollution</u></p> <p>There is also the potential for atmospheric pollution from the construction and operation of the proposed scheme to indirectly impact foraging osprey through impacts on the function and supporting processes of habitats that support the species. However, although the broad habitat types that osprey use for foraging are sensitive to nitrogen deposition, Air Pollution Information System (APIS) consider that impacts on osprey broad habitat types are not expected to have a negative impact on the species (APIS 2018).</p> <p><u>Conclusion</u></p> <p>No effects pathways between the proposed scheme and foraging osprey could be identified. Therefore, there are no likely significant effects.</p>	<p>progress to Stage Two AA</p>
		<ul style="list-style-type: none"> • Bar-tailed godwit, non-breeding* • Cormorant, non-breeding* • Curlew, non-breeding* • Goldeneye, non-breeding* • Goosander, non-breeding* • Greylag goose, non-breeding • Oystercatcher, non-breeding* • Red-breasted merganser, non-breeding • Redshank, non-breeding • Scaup, non-breeding • Teal, non-breeding* • Wigeon, non-breeding* • Waterfowl assemblage, non-breeding 	<p><u>Habitat loss/fragmentation and Disturbance</u></p> <p>No SPA habitat will be lost under the footprint of the proposed scheme. However, there is the potential for qualifying interests utilising these habitats to be disturbed during the construction and operation of the proposed scheme. Recreation/disturbance has been recorded as a pressure for all bird qualifying interests except greylag goose (SNH 2019c).</p> <p>There is supporting habitat, in the form of agricultural land used for foraging and high tide roosts, for the non-breeding waders and wildfowl qualifying interests within the vicinity of the proposed scheme.</p> <p>Wintering bird surveys showed that wintering bird species did not utilise the agricultural fields in the area of the proposed scheme, with the exception of curlew and greylag geese. Oystercatcher were observed, but all activity was recorded along the coastal road north of Allanfearn, 1.7km north-east of the proposed scheme. Curlew and greylag geese were recorded using fields within the area of the proposed scheme as well as further afield. Neither species exhibited considerable site fidelity to the fields within the area of the proposed scheme; the fields were used at different times over the winter and data suggested they are not used in consecutive years consistently. Although curlew and greylag geese used agricultural fields within the area of the proposed scheme, there is alternative suitable habitat within the wider area, and both species exhibit low site fidelity based on field data (Appendix A2: Wintering Bird Surveys).</p> <p>Although the proposed scheme lies within 340m of the SPA it is largely hidden from the Longman Bay area by built-up parts of Inverness. It is also separated from Longman Bay by the Aberdeen to Inverness Railway Line, a line of woodland and small communities/farmsteads including that at Cairnlaw, and the existing and proposed upgraded A96. Disturbance to qualifying species using the SPA habitat is unlikely due to the distance between the site and the</p>	<p>No LSE and therefore no requirement to progress to Stage Two AA</p>

Conservation Objectives	Distance/Connectivity to Proposed Scheme	Qualifying Interests (SNH SiteLink) (SNH 2019a, 2019b, 2019c)	Potential Effects and Commentary	Screening Conclusion
			<p>proposed scheme, as well as the screening provided by features including woodland and settlements. Furthermore, greylag geese have also been recorded foraging in fields adjacent to the existing A96 (Figure A2.1, Appendix A2: Wintering Bird Surveys) which indicates resilience to disturbance from roads.</p> <p><u>Air Pollution</u></p> <p>There is also the potential for atmospheric pollution from the construction and operation of the proposed scheme to impact the qualifying species of the SPA through changes to the function and processes of supporting habitats. However, although the species' broad habitat types are sensitive to nitrogen deposition, APIS consider that impacts on the species' broad habitat types are not expected to have a negative impact on any of the species (APIS, 2018).</p> <p><u>Conclusion</u></p> <p>There would be no disturbance of these over-wintering species either using SPA habitat or supporting habitat and no loss or degradation of important supporting habitat. Therefore, there are no likely significant effects.</p>	
		<ul style="list-style-type: none"> All interests (including supporting habitats) 	<p><u>Changes in Water Quality</u></p> <p>As the proposed scheme is hydrologically connected to the SPA, pollution events could impact the qualifying interests during construction and operation, affecting their feeding resources. However, the proposed scheme's legislative compliance, including adherence to GPPs/PPGs and use of construction SuDS embedded within the design to protect the water environment, would prevent pollution originating from construction works reaching the SPA. During operation, SuDS would provide treatment to road runoff, preventing polluted water entering waterbodies and the SPA.</p> <p><u>Conclusion</u></p> <p>There will be no impact on feeding resources of the any of the qualifying interests of the SPA and as such there are no likely significant effects.</p>	No LSE and therefore no requirement to progress to Stage Two AA
UK9020313, 10490 Moray Firth pSPA				
To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species.	<p>The proposed scheme lies approximately 840m from the Moray Firth pSPA.</p> <p>It is hydrologically connected to the site (directly/indirectly) by; Cairnlaw Burn (SWF08), Scretan Burn (SWF04) and Beechwood Burn (SWF03). Furthermore, Inshes Burn</p>	<ul style="list-style-type: none"> Shag, breeding Common scoter, non-breeding Eider, non-breeding Goldeneye, non-breeding Great northern diver, non-breeding Long-tailed duck, non-breeding Red-breasted merganser, 	<p><u>Disturbance</u></p> <p>At its nearest point, the pSPA is over 840m from the proposed scheme. There is therefore no risk of significant disturbance from the proposed scheme on the qualifying species of the pSPA.</p> <p>No regularly used/suitable supporting habitat for the proposed qualifying species was identified in the vicinity of the proposed scheme; all qualifying bird species are highly dependent on coastal and marine habitats and do not rely on any of the broad habitat types within the proposed scheme area.</p> <p><u>Changes in Water Quality</u></p> <p>As the proposed scheme is hydrologically connected to the pSPA, pollution events could impact the qualifying interests during construction and operation.</p>	No LSE and therefore no requirement to progress to Stage Two AA

Conservation Objectives	Distance/Connectivity to Proposed Scheme	Qualifying Interests (SNH SiteLink) (SNH 2019a, 2019b, 2019c)	Potential Effects and Commentary	Screening Conclusion
<p>This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:</p> <ul style="list-style-type: none"> • avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term; and • to maintain the habitats and food resources of the qualifying features in favourable condition. 	<p>(SWF02) flows under the Inverness Retail and Business Park, joining Scretan Burn.</p>	<p>non-breeding</p> <ul style="list-style-type: none"> • Red-throated diver, non-breeding • Scaup, non-breeding • Shag, non-breeding • Slavonian grebe, non-breeding • Velvet scoter, non-breeding 	<p>However, the proposed scheme's required legislative compliance, including adherence to GPPs/PPGs and use of construction SuDS embedded within the design to protect the water environment, will also prevent pollution originating from construction works reaching the pSPA. During operation, SuDS (swales and detention basins) would provide treatment to road runoff, preventing polluted water entering waterbodies and therefore also the pSPA.</p> <p><u>Conclusion</u> Therefore, there are no likely significant effects.</p>	
UK13025, 8430 Inner Moray Firth Ramsar				
<p>The Ramsar Convention's mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".</p>	<p>The proposed scheme lies within 340m of the Inner Moray Firth Ramsar.</p> <p>It is hydrologically connected to the site by two burns; Cairnlaw Burn (SWF08), Scretan Burn (SWF04) and Beechwood Burn (SWF03). Furthermore, Inshes Burn (SWF02) flows under the Inverness Retail and Business Park, joining Scretan Burn.</p>	<ul style="list-style-type: none"> • Bar-tailed godwit, non-breeding • Greylag goose, non-breeding • Red-breasted merganser, non-breeding • Redshank, non-breeding • Waterfowl assemblage, non-breeding 	<p><u>Habitat loss/fragmentation and Disturbance</u></p> <p>No Ramsar habitat would be lost under the footprint of the proposed scheme. However, there is the potential for qualifying interests utilising these habitats to be disturbed during the construction and operation of the proposed scheme.</p> <p>Recreation/disturbance has been recorded as a pressure for all bird qualifying interests except greylag goose (SNH 2019b). Although the proposed scheme lies within 340m of the Ramsar site it is largely hidden from the Longman Bay area by built-up parts of Inverness. It is also separated from Longman Bay by the Aberdeen to Inverness Railway Line, a line of woodland and small communities/farmsteads including that at Cairnlaw, and the existing and proposed upgraded A96. Disturbance to qualifying species using the Ramsar habitat is unlikely due to the distance between the site and the proposed scheme, as well as the screening provided by features including woodland and settlements.</p> <p>There is supporting habitat, in the form of agricultural land used for foraging and high tide roosts, for the non-breeding waders and wildfowl qualifying interests within the vicinity of the proposed scheme. However, wintering bird surveys to inform the A96 Dualling Inverness to Nairn (including Nairn Bypass) proposed scheme showed that the qualifying wintering bird species of the Ramsar did not utilise the agricultural fields in the area of the proposed scheme (Jacobs 2016b), with the exception of greylag geese.</p> <p>The Wintering Bird surveys identified greylag geese using the agricultural fields in the area of the proposed scheme. However, greylag geese have also been recorded foraging in fields adjacent to the existing A96 which indicates</p>	<p>No LSE and therefore no requirement to progress to Stage Two AA</p>

Conservation Objectives	Distance/Connectivity to Proposed Scheme	Qualifying Interests (SNH SiteLink) (SNH 2019a, 2019b, 2019c)	Potential Effects and Commentary	Screening Conclusion
			<p>acclimatisation to disturbance from the road. Although recorded using agricultural fields within the area of the proposed scheme, greylag geese are unlikely to suffer disturbance effects that would have any bearing on the over-wintering population of this species or the integrity of the site. Furthermore, the availability of other suitable habitat within the area, and their lack of site fidelity (Appendix A2: Wintering Bird Surveys), further supports this assessment.</p> <p>There would therefore be no significant disturbance of over-wintering qualifying species either using Ramsar habitat or supporting habitat and, additionally, no loss of important supporting habitat.</p> <p><u>Air Pollution</u></p> <p>There is also the potential for atmospheric pollution from the construction and operation of the proposed scheme to impact the qualifying species of the Ramsar site. However, although the species' broad habitat types are sensitive to nitrogen deposition, APIS consider that impacts on these habitat types are not expected to have a negative impact on the species (APIS, 2018).</p> <p><u>Changes to Water Quality</u></p> <p>As the proposed scheme is hydrologically connected to the Ramsar site, pollution events could impact the qualifying interests during construction and operation. However, the proposed scheme's legislative compliance, including adherence to GPPs/PPGs and use of construction SuDS embedded within the design to protect the water environment, will prevent pollution originating from construction works reaching the Ramsar. During operation, SuDS would provide treatment to road runoff, preventing polluted water entering waterbodies and the Ramsar.</p> <p><u>Conclusion</u></p> <p>Therefore, there are no likely significant effects.</p>	

*Assemblage qualifier

5 In-combination Assessment

- 5.1.1 As indicated in Section 4, it is considered that the proposed scheme would not result in an LSE on any European/Ramsar sites.
- 5.1.2 As a result, there would be no potential for in-combination effects to occur with other plans or projects.

6 Conclusion

- 6.1.1 The proposed scheme was assessed for its potential to have a LSE European/Ramsar sites during all phases of the development. Following consultation on the DMRB Stage 3 Scoping Report (Jacobs 2018), three European/Ramsar sites, namely Inner Moray Firth SPA, Inner Moray Firth Ramsar and Moray Firth pSPA. were identified for inclusion in the screening assessment.
- 6.1.2 The Inner Moray Firth SPA, Inner Moray Firth Ramsar and Moray Firth pSPA all lie within 1km of the proposed scheme at their nearest points and are designated primarily for wintering birds. The screening assessment showed that, due to the in-built design elements which have been incorporated to ensure adherence to legislative requirements to protect the environment unrelated to European sites and the Natura 2000 network, particularly with regard to pollution prevention, there would be no effects pathways that could lead to LSEs on any of the sites. Furthermore, fields within the proposed scheme, although used by some of the qualifying interests of the European/Ramsar sites do not represent important supporting habitat and are not used consistently by the species; a lack of site fidelity is evident from the data collected during wintering bird surveys for the proposed scheme and the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme (Appendix A2: Wintering Bird Surveys).
- 6.1.3 Therefore, it is concluded that the proposed scheme, either alone or in-combination with other plans and projects, would have no LSEs on the Inner Moray Firth SPA, Inner Moray Firth Ramsar and Moray Firth pSPA alone or in combination with other plans and projects and, as such, the need to undertake further stages of the HRA process is not required.

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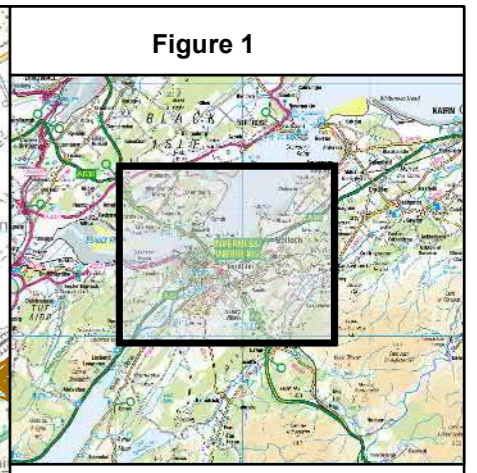
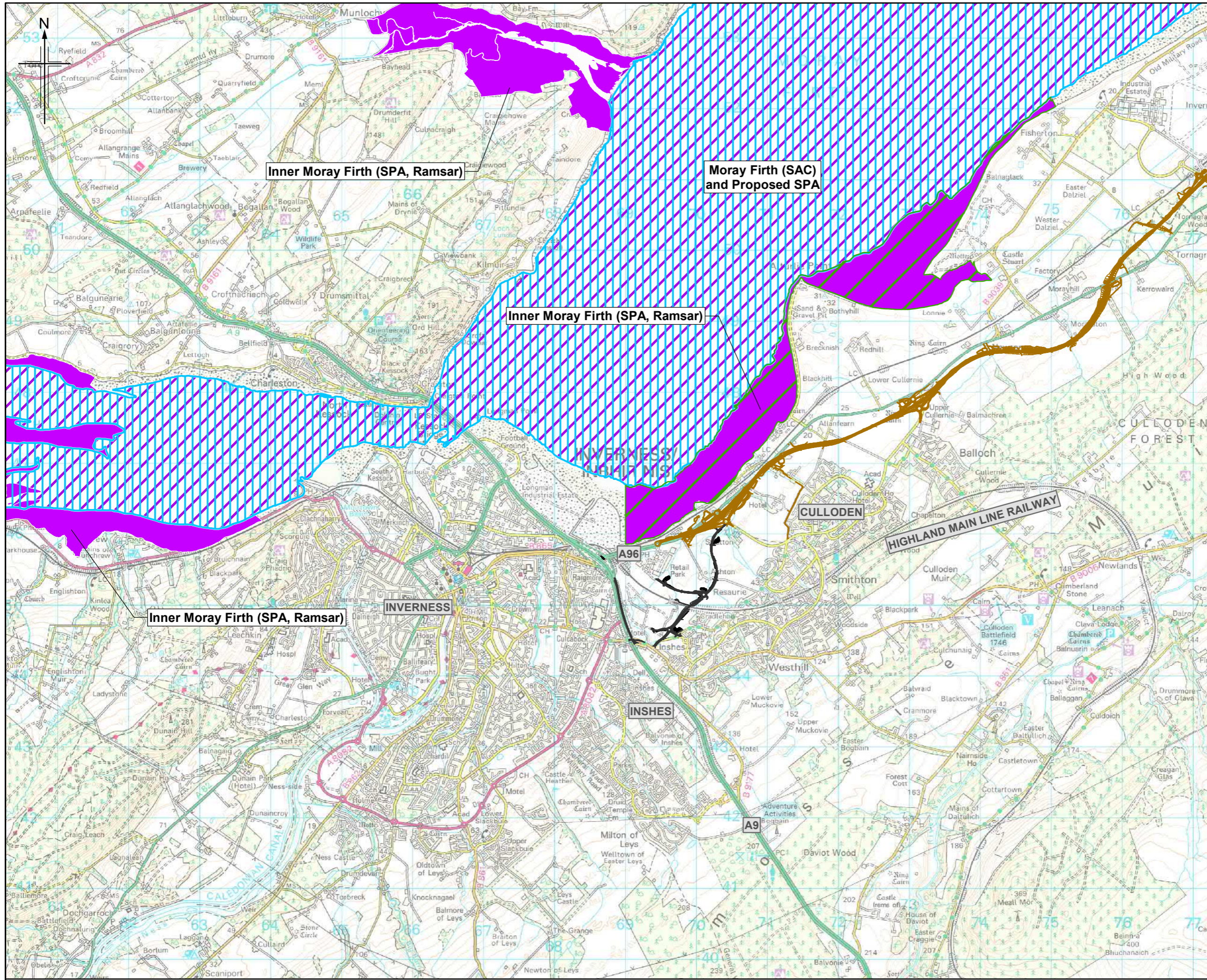
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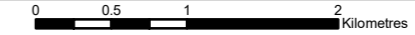
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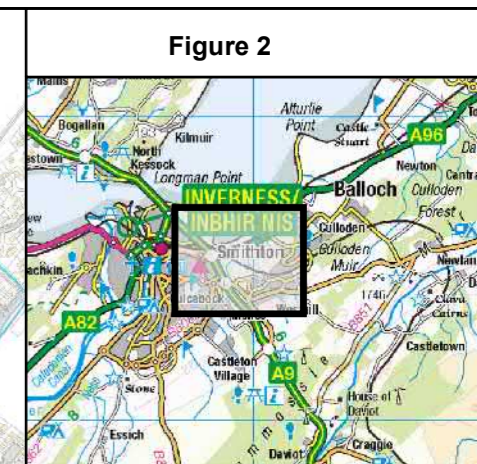
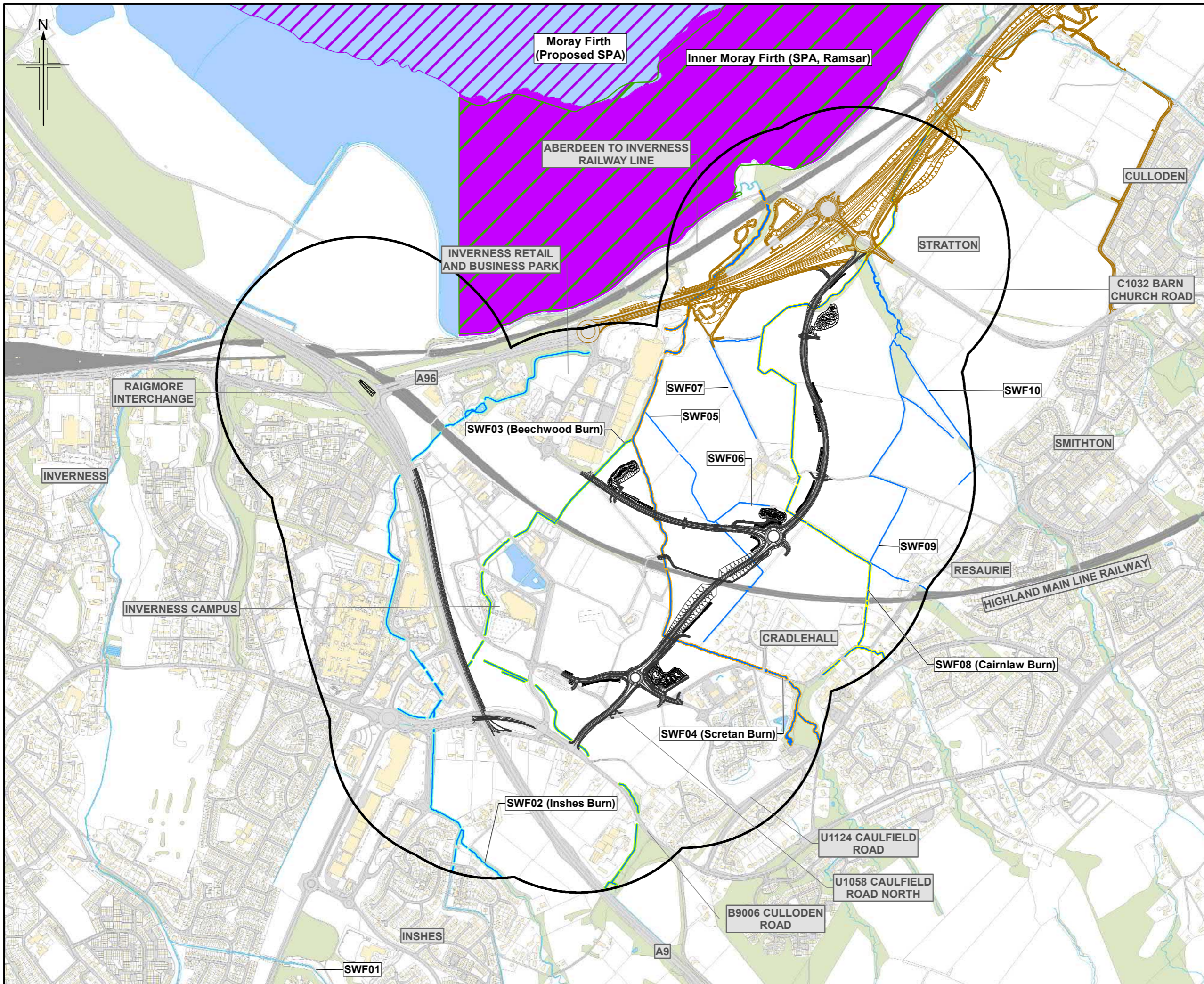
The Water Environment (Controlled Activities) (Scotland) Regulations 2011, SI2011/209



- Legend**
- Proposed Scheme (DMRB Stage 3 design)
 - A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
 - Special Area of Conservation (SAC)
 - Special Protection Area (SPA)
 - Wetlands of International Importance (Ramsar)
 - Proposed Special Protection Area (pSPA)

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DMRB Stage 3 Habitats Regulations Appraisal Overview Map						
Sheet 1 of 1						
Drawing Status						
A – APPROVED AS STAGE COMPLETE						
Scale						
1:50,000 @ A3 DO NOT SCALE						
Jacobs No.						
B2103501						
BIM No.						
A9-A96IS-JAC-EGN-XXX-FG-EN-0070						
Drawing number						
Figure 1						
						Rev C00





- Legend**
- Proposed Scheme (DMRB Stage 3 design)
 - A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
 - 500m Study Area
 - Wetlands of International Importance (Ramsar)
 - Special Protection Area (SPA)
 - Proposed Special Protection Area (pSPA)
 - Surface Water Feature (SWF)
 - Inshes Burn (SWF02)
 - Beechwood Burn (SWF03)
 - Scretan Burn (SWF04)
 - Cairlaw Burn (SWF08)

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 Sheet 1 of 1

Drawing Status	A - APPROVED AS STAGE COMPLETE	
Scale	1:12,500 @ A3	DO NOT SCALE
Jacobs No.	B2103501	
BIM No.	A9-A96IS-JAC-EGN-XXX-FG-EN-0071	
Drawing number	Figure 2	Rev C00

Appendix A1: European/Ramsar sites

1 Introduction

- 1.1 This appendix details the qualifying interests, condition assessments and conservation objectives for each of the European/Ramsar sites assessed within the Habitats Regulations Appraisal (HRA).

2 Sites Details

- 2.1 Details of Special Protection Areas (SPA), Ramsar sites and proposed Special Protection Areas (pSPA) can be found in Table 1. Locations of these sites in relation to the proposed scheme and their connectivity with the proposed scheme are shown in Figures 1 and 2 of the main report.

Table 1: European/Ramsar Sites Qualifying Interests, Condition Assessment and Conservation Objectives

Site ID (EU Site Code, SNH Site Code), Name and Area	Qualifying Interests (taken from SNH SiteLink) (SNH 2019a, 2019b and 2019c)	Condition Assessment		Conservation Objectives
		Condition	Date	
UK9001624, 8515 Inner Moray Firth SPA 2,290.25 ha	Common tern (<i>Sterna hirundo</i>), breeding Osprey (<i>Pandion haliaetus</i>), breeding Osprey (<i>Pandion haliaetus</i>), foraging Bar-tailed godwit (<i>Limosa lapponica</i>), non-breeding Cormorant (<i>Phalacrocorax carbo</i>), non-breeding* Curlew (<i>Numenius arquata</i>), non-breeding* Goldeneye (<i>Bucephala clangula</i>), non-breeding* Goosander (<i>Mergus merganser</i>), non-breeding* Greylag goose (<i>Anser anser</i>), non-breeding Oystercatcher (<i>Haematopus ostralegus</i>), non-breeding* Red-breasted merganser (<i>Mergus serrator</i>), non-breeding Redshank (<i>Tringa totanus</i>), non-breeding Scaup (<i>Aythya marila</i>), non-breeding* Teal (<i>Anas crecca</i>), non-breeding* Wigeon (<i>Anas penelope</i>), non-breeding* Waterfowl assemblage, non-breeding	Unfavourable No change Favourable Maintained Not assessed Favourable Maintained Unfavourable No change Favourable Maintained Favourable Maintained Unfavourable No change Favourable Maintained Favourable Maintained Unfavourable No change Favourable Maintained Favourable Maintained Unfavourable No change Favourable Maintained Favourable Maintained Favourable Maintained Favourable Maintained	30-06-2000 30-06-2003 n/a 04-02-2001 04-02-2001 04-02-2001 04-02-2001 04-02-2001 31-12-2001 04-02-2001 04-02-2001 04-02-2001 04-02-2001 04-02-2001 04-02-2001 31-12-2001	To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and To ensure for the qualifying species that the following are maintained in the long term: <ul style="list-style-type: none"> • population of the species as a viable component of the site; • distribution of the species within the site; • distribution and extent of habitats supporting the species; • structure, function and supporting processes of habitats supporting the species; and • no significant disturbance of the species.
UK13025, 8430 Inner Moray Firth Ramsar 2,339.25 ha	Intertidal mudflats and sandflats Saltmarsh Sand dunes Shingle Bar-tailed godwit, non-breeding Greylag goose, non-breeding Red-breasted merganser, non-breeding Redshank, non-breeding Waterfowl assemblage, non-breeding	Favourable Maintained Favourable Maintained Favourable Maintained Favourable Maintained Favourable Maintained Favourable Maintained Unfavourable No change Favourable Maintained Favourable Maintained	01-09-2008 23-08-2010 12-07-2002 23-08-2010 04-02-2001 31-12-2001 04-02-2001 04-02-2001 31-12-2001	The Ramsar Convention's mission is 'the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world'.
UK9020313, 10490 Moray Firth pSPA 176,235.95 ha	Shag (<i>Phalacrocorax aristotelis</i>), breeding Common scoter (<i>Melanitta nigra</i>), non-breeding Eider (<i>Somateria mollissima</i>), non-breeding Goldeneye, non-breeding Great northern diver (<i>Gavia immer</i>), non-breeding Long-tailed duck (<i>Clangula hyemalis</i>), non-breeding Red-breasted merganser, non-breeding Red-throated diver (<i>Gavia stellata</i>), non-breeding	Information not available	n/a	To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species. This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:

Site ID (EU Site Code, SNH Site Code), Name and Area	Qualifying Interests (taken from SNH SiteLink) (SNH 2019a, 2019b and 2019c)	Condition Assessment		Conservation Objectives
		Condition	Date	
	Scaup, non-breeding Shag, non-breeding Slavonian grebe (<i>Podiceps auritus</i>), non-breeding Velvet scoter (<i>Melanitta fuscus</i>), non-breeding			<ul style="list-style-type: none"> avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term; and to maintain the habitats and food resources of the qualifying features in favourable condition.

*assemblage qualifier

3 References

Scottish Natural Heritage (SNH) (2016) Moray Firth proposed Special Protection Area (pSPA) Advice to Support Management.

Scottish Natural Heritage (SNH) (2019a) SiteLink: Site Details for Inner Moray Firth SPA [Online] Available from <https://sitelink.nature.scot/site/8515> [Accessed 10-09-2018]

Scottish Natural Heritage (SNH) (2019b) SiteLink: Site Details for Inner Moray Firth Ramsar. [Online] Available from <https://sitelink.nature.scot/site/8430> [Accessed 10-09-2018]

Scottish Natural Heritage (SNH) (2019c) SiteLink: Site Details for Moray Firth pSPA. [Online] Available from <https://sitelink.nature.scot/site/10490> [Accessed 10-09-2018]

The Ramsar Convention Secretariat (2014) The Ramsar Convention and Its Mission [Online] Available from <https://www.ramsar.org/about/the-ramsar-convention-and-its-mission> [Accessed 10-09-2018]

Appendix A2: Wintering Bird Surveys

1 Introduction

- 1.1 Wintering bird surveys were undertaken to inform the Environmental Impact Assessment Report (EIAR) for the A9/A96 Inshes to Smithon scheme (hereafter referred to as the proposed scheme) (Jacobs 2019). Methods and results are detailed below.

2 Methods

- 2.1 Wintering bird surveys were undertaken between October 2017 and March 2018 (inclusive) in line with standard practices (Keller, Gallo-Orsi, Patterson and Naef-Daenzer 1997; Patterson, Lambie, Smith and Smith 2013). The surveys comprised three elements:
- surveys within 500m of the proposed scheme;
 - surveys within 5km of the proposed scheme; and
 - surveys during daylight hours to identify inland foraging and diurnal high tide roosts up to 5km from the proposed scheme.
- 2.2 Meteorological data was also recorded on each day of survey.

Survey Methods Within 500m of the Proposed Scheme

- 2.3 Wintering bird surveys were undertaken over three consecutive days each month within 500m of the proposed scheme, discounting urban areas. The surveys were designed to target wader and wildfowl species (excluding mallard, which were not noted due to their common occurrence and widespread distribution), although other notable species were recorded, for example Schedule 1 species. Monthly visits were timed to coincide with the highest spring tide in the month to identify inland high tide roosts of waders and wildfowl within the survey area. Agricultural land use was recorded monthly.
- 2.4 Dusk and dawn surveys were undertaken to identify the presence of overnight roosting waders and wildfowl (primarily geese) within the survey area. The surveys commenced 30 minutes prior to civil dawn (when the geometric centre of the sun is 6° below the horizon in the morning) for 1.5 hours and similarly began 1.5 hours prior to, to 30 minutes after, civil dusk (when the geometric centre of the sun is 6° below the horizon in the evening). Two dawn and two dusk surveys were undertaken in each month from three separate Vantage Points (VPs).
- 2.5 VPs were selected to provide the least obstructed view of the entire survey area. As the purpose of the surveys was simply to identify any roosts, during each monthly visit the combination of VPs surveyed was chosen based upon bird behaviour recorded in the preceding day(s). It was, however, considered likely that all waders and wildfowl roosting within the survey area would be recorded from the VPs.
- 2.6 Surveys during daylight hours combined walkovers and multiple visits to the VP locations which provided good views across the survey area. Daylight surveys focussed upon high tide periods to identify inland high tide roosts, although all waders and wildfowl (including flying birds) were recorded within the survey area throughout the three day visit each month (October to March). Surveys remained flexible allowing surveyors to react to conditions within the survey area, including notable observations of bird behaviour.
- 2.7 The following data were recorded when waders and wildfowl were encountered:
- time of day;
 - species;
 - number; and
 - behaviour (flying, foraging, loafing or roosting).

Survey Methods Within 5km of the Proposed Scheme

- 2.8 Additional drive-over surveys were undertaken within 5km of the proposed scheme on one day each month. The surveys focused on the corridor of lowland coastal mixed agriculture to the north-east of the proposed scheme with the aim of characterising wader and wildfowl presence in the wider area.
- 2.9 Two surveyors (one driving and one experienced ornithologist) drove along the available roads within the survey area while scanning for flocks of foraging waders and wildfowl, primarily geese. Upon observing waders and/or wildfowl, surveyors stopped in a safe location to record flock sizes and behaviour. Surveyors also stopped at locations that provided good views over wide areas of suitable habitat to observe for any birds which were not observed during the drive-by survey.

Data Analysis Methods

- 2.10 Analysis of the wintering bird data was undertaken to identify the population size and distribution of waders and wildfowl within the 500m and 5km survey areas. Where data are described as 'within 5km' this specifically refers to data outwith the 500m study area, but within a 5km wide buffer. This approach was taken to prevent double counting and mitigate for any confusion in the analysis. Bird data was derived for each species in the following ways:
- number of observations – the number of separate occasions an individual, or group, of birds was recorded;
 - peak count – the highest individual count of birds in a specified area;
 - monthly peak count – the highest peak count within a calendar month;
 - winter peak count – the highest peak count between October and March (inclusive); and
 - winter mean peak count – the mean (average) of all the monthly peak counts between October and March (inclusive).
- 2.11 The cumulative total of all records of each species was not presented as observations were recorded on multiple occasions during each survey day to identify peak counts.

3 Results

Overview

- 3.1 Within 500m and 5km of the proposed scheme, eight species of wader and wildfowl were recorded, of which two species were recorded solely flying across the site (common snipe (*Gallinago gallinago*) and whooper swan (*Cygnus cygnus*)). Of the six species recorded on the ground a total of 177 observations (35,639 individual birds) were made. Only four wader and wildfowl species were recorded on the ground within 500m of the proposed scheme (Table 1).
- 3.2 Three of the species recorded were qualifying interests of the Inner Moray Firth Special Protection Area (SPA) and only one was a qualifying interest of the Inner Moray Firth Ramsar site (Table 1). No qualifying interests of the Moray Firth proposed SPA (pSPA) were recorded.
- 3.3 The most abundant species recorded was pink-footed goose (*Anser brachyrhynchus*) with a peak count of 2,740 individuals. The most abundant qualifying species was greylag goose (peak count of 130 individuals) (Table 1).

Table 1: Peak Counts and Field Usage of Waders and Wildfowl Recorded within 500m and 5km of the Proposed Scheme. Shaded Rows Indicate European/Ramsar Site Qualifying Interests.

Species	Peak Counts Within 500m*	Peak Counts Within 5km*	No. of Fields Used Within 500m	No. of Fields Used Within 5km
Barnacle goose (<i>Branta leucopsis</i>)	-	2 (2)	-	2
Curlew (<i>Numenius arquata</i>) ¹	65 (33)	119 (13)	6	10
Greylag goose (<i>Anser anser</i>) ^{1, 2}	25 (19)	130 (22)	3	18
Lapwing (<i>Vanellus vanellus</i>)	214 (15)	330 (2)	5	1
Oystercatcher (<i>Haematopus ostralegus</i>) ¹	-	81 (8)	-	3
Pink-footed goose	2740 (37)	2350 (26)	5	20

¹Qualifying species of the Inner Moray Firth SPA,

²Qualifying species of the Inner Moray Firth Ramsar site

*(n) number of observations.

Species Within 500m of the Proposed Scheme

- 3.4 Four species were recorded within 500m of the proposed scheme (Table 2) including two qualifying interest species; greylag goose and curlew. The four species were recorded using nine separate fields surrounding Ashton Farm, a total of 104 observations. Greylag goose also roosted overnight (11 individuals) within the 500m survey area, although the majority of observations were of birds foraging and/or loafing during daylight hours. The roost lay to the north-west of Ashton Farm.
- 3.5 Greylag geese were recorded between December and February (inclusive), in fields of semi-improved grassland. Curlew were recorded across the full survey period, with the exception of February when no observations were made.

Table 2: Wader and Wildfowl Observations in Relation to Land Use*. Shaded Rows Indicate European/Ramsar Site Qualifying Interests

Species	Arable Stubble	Ploughed	Semi-improved Grassland
Curlew ¹	13 (65)	-	20 (34)
Lapwing	1 (186)	5 (136)	9 (214)
Greylag goose ^{1, 2}	-	-	19 (25)
Pink-footed goose	-	-	37 (2740)

¹Qualifying species of the Inner Moray Firth SPA,

²Qualifying species of the Inner Moray Firth Ramsar site

* (n) indicates the peak count of each species for each land use.

- 3.6 A peak count of 25 greylag geese was recorded in February, however the average count of greylag geese was only nine individuals. Average counts of 26 curlew were recorded although numbers peaked at 65 individuals. The peak count was noted on 24 October 2017 to the east of Ashton Farm. The species used the area for diurnal high tide roosting (loafing) and foraging.

Species Within 5km of the Proposed Scheme

- 3.7 Six species were recorded within 5km of the proposed scheme; oystercatcher and barnacle goose were recorded, in addition to the four species observed on the ground within the 500m survey area. Within 5km, the six species used 32 separate fields for foraging and loafing, and one species (pink-footed goose) was observed on the shore roosting. In total there were 73 observations of these species on the ground.
- 3.8 Curlews were recorded thirteen times using 10 separate fields (Table 1). A peak count of 119 individuals was recorded in February, 2.5km north-east of the proposed scheme with an additional 40 curlews recorded in other fields during the same drive-over survey.
- 3.9 There were also 22 observations of greylag geese using 18 separate fields (Table 1). Most activity was spread out along the Moray Firth coast to the north-east between 1.5km and 5km from the proposed scheme. A peak count of 130 greylag geese was recorded in January.
- 3.10 Oystercatcher were regularly recorded along the coast of Longman Bay near Allanfearn over 1.5km from the proposed scheme. A peak count of 81 individuals in November was recorded. There were eight observations of oystercatcher using three fields, however this species was not recorded within 500m of the proposed scheme during the surveys (Table 1).

4 Qualifying Species Accounts

Curlew

- 4.1 Curlew were recorded within both the 500m and 5km survey areas (Figure A2.1a and A2.1b). A total of 33 curlew observations were recorded of individuals using six separate fields within the 500m survey area (Figure A2.1a), with the peak count recorded to the east of Ashton Farm (65 individuals). The peak count for curlew represents 5.2% of the Inner Moray Firth SPA qualifying population of this species (SNH 2018).
- 4.2 Curlew favoured arable stubble fields during the autumn for foraging although after two fields were ploughed in November curlew were only observed on semi-improved grassland. Numbers generally decreased throughout the survey period and between February and March there was a single observation (16 individuals) on 19 March.
- 4.3 A total of 13 curlew observations were recorded of individuals using 10 separate fields within the 5km survey area and the peak count of 119 individuals was recorded on 15 February west of Lower Cullernie, 2.5km north-east of the proposed scheme (Figure A2.1b). An additional 40 curlews were recorded in other fields during the same drive-over survey, indicating a higher peak count of 159 individuals. This peak represents 12.6% of the Inner Moray Firth SPA qualifying population (SNH 2018). Curlew were not recorded within the 5km survey area during the December visit, however they were recorded regularly in the other survey months.
- 4.4 A total of 25 curlew flight lines were recorded. The flight activity was primarily birds commuting between the coast at Longman Bay and the fields surrounding Ashton Farm. There were six records of curlew flying further south over Cradlehall beyond the 500m survey area.
- 4.5 Over 5% of the Inner Moray Firth SPA qualifying population of curlew was recorded within 500m of the proposed scheme. However, the data from within 5km of the proposed scheme showed that site fidelity was low (13 observations from 10 fields) and the species was seen to move as a result of changes in agricultural management.

Greylag Goose

- 4.6 Greylag geese were recorded within both the 500m and 5km survey areas (Figure A2.1d and A2.1e). A total of 19 observations were recorded of individuals using three fields within the 500m survey area (Figure A2.1d). A peak count of 25 individuals was noted on 15 February which represents 0.9% of the Inner Moray Firth SPA qualifying population of greylag goose (SNH 2018). Greylag geese were only recorded during winter months (December to February (inclusive)) and in fields of semi-improved grassland.
- 4.7 A small number of greylag geese roosted overnight within a flooded field corner north-west of Ashton Farm on 19 December (11 individuals). Most observations of geese were loafing or foraging on the fields during the daylight assessments.
- 4.8 A total of 22 observations were recorded of individuals using 18 separate fields within the 5km buffer (Figure A2.1d and A2.1e). Most activity was spread out along the Moray Firth coast to the north-east between Allanfean and Newton of Petty, between 1.5km and 5km from the proposed scheme. A peak count of 130 greylag geese was recorded at Allanfean on 16 January. This represents 4.9% of the Inner Moray Firth SPA qualifying population of greylag goose (SNH 2018). Two small groups were recorded away from this area in December, south-west of the proposed scheme, at Lower Muckovie (23 individuals) and Woodside of Culloden (10 individuals) (Figure A2.1d). Greylag geese regularly associated with pink-footed geese throughout the 5km survey area.
- 4.9 A total of 18 greylag geese flight lines were recorded between December and March (inclusive). The flight activity was primarily of birds commuting between the coast at Longman Bay and the fields surrounding Ashton Farm, or continuing further south past Cradlehall towards Lower Muckovie. Fifty individuals were recorded flying south over Ashton Farm on 17 January.
- 4.10 Wintering greylag goose was only recorded in semi-improved grassland. Peak counts showed that

less than 1% of the Inner Moray Firth SPA qualifying population utilised fields within 500m of the proposed scheme whilst this rose to nearly 5% within 5km. Site fidelity was low within 5km of the proposed scheme, the presence of semi-improved grassland being more important.

Oystercatcher

- 4.11 Oystercatcher was not recorded within the 500m survey area, however, eight observations were recorded of individuals using three fields within the 5km survey area (Figure A2.1c). All oystercatcher activity was recorded along the coastal road north of Allanfearn, 1.7km north-east of the proposed scheme. A peak count of 81 individuals was noted immediately east of Allanfearn Waste Water Treatment Works on 21 November. A further 31 individuals were recorded in an adjacent field during the same survey indicating an overall peak count of 112 individuals. This peak count represents 3.7% of the Inner Moray Firth SPA qualifying population (SNH 2018).
- 4.12 The surveys indicated that wintering oystercatcher used fields adjacent to the coast at Longman Bay and not those fields within the vicinity of the proposed scheme.

Comparison of the Proposed Scheme with the A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme

- 4.13 The data collected for the proposed scheme broadly support the data collected to inform the A96 Dualling Inverness to Nairn (including Nairn Bypass) Environmental Impact Assessment (EIA) and Habitats Regulations Appraisal (Jacobs 2016a; Jacobs 2016b). Although the survey areas were broadly similar, they covered slightly different areas based on the differing requirements of the proposed scheme and the A96 Dualling Inverness to Nairn (including Nairn Bypass) proposed scheme. Of note, the surveys to inform the A96 Dualling Inverness to Nairn (including Nairn Bypass) EIA, did not record any usage of fields by qualifying interest species within 500m of the A9/A96 Inshes to Smithon proposed scheme.
- 4.14 In the A96 Dualling Inverness to Nairn (including Nairn Bypass) surveys, curlew records were evenly split between semi-improved grassland and arable stubble fields, although the species was also recorded utilising ploughed fields. This is similar to what was observed during surveys for the proposed scheme, however ploughed fields were not recorded in the latter as being used by curlew. A low fidelity to fields was also recorded, with 18 of the 21 fields utilised only used once. Furthermore, these fields were spread throughout the extent of the study area indicating that no particular location was of significance. However, all the fields utilised by curlew were no more than 2.6km from the Moray Firth and studies have indicated that fields less than 500m from the sea were most likely to be used, with fields more than 2.5km from the sea least used (Bright, J.A., Langston, R.H.W. and Anthony, S. 2009). Although surveys for both proposed schemes did not record curlew using the exact same fields, both studies found the area around Castle Stuart Bay (east of Alturlie Point) to be utilised by curlew.
- 4.15 Greylag geese were recorded in late winter/early spring in the A96 Dualling Inverness to Nairn (including Nairn Bypass) surveys and were virtually absent during October to December (autumn). The surveys for the proposed scheme also did not record the species in autumn, noting them during December to February. The species was observed in semi-improved grassland in the surveys for the proposed scheme which was similar to the A96 Dualling Inverness to Nairn (including Nairn Bypass) surveys where 84% of records were from semi-improved grassland/arable grass/rough grass (16% from arable stubble). Greylag goose also exhibited little if any significant fidelity to particular fields; 77% of recorded fields were utilised only once. This is comparable to the survey results for the proposed scheme where fields within 5km were used on average 1.2 times over the winter (which equates to 81% of the fields being used once), however within 500m, one of the three fields was used 89% of the time. This is likely to be a result of the preference for semi-improved grassland. Additionally, the A96 Dualling Inverness to Nairn (including Nairn Bypass) surveys showed that site fidelity was low between years with only 9% of fields used by greylag geese in both 2014 and 2015. One field near Redhill was found to be used in both surveys.
- 4.16 In the A96 Dualling Inverness to Nairn (including Nairn Bypass) surveys, oystercatcher were recorded in six fields scattered across the study area and only one field was utilised twice. Numbers were relatively low with a peak of 75 individuals, similar to the 81 individuals recorded for the proposed

scheme (A9/A96 Inshes to Smithton proposed scheme). Observations along the Moray Firth (Rehfisch, M.M., Langston, R.H.W., Clark, N. A. and Forrest, C. 1993) have indicated that oystercatcher tends to remain adjacent to its main feeding areas and were unlikely to move to another part of the Firth. Cliff top recreational grasslands such as golf courses and other recreational grasslands have been found to be an important resource for wintering oystercatchers, with pasture less likely to be used (Furnell, J. and Hull, S.L. 2014). The surveys for the proposed scheme (A9/A96 Inshes to Smithton proposed scheme) only recorded oystercatcher activity along a coastal road adjacent to Longman Bay. Neither survey recorded oystercatcher using the same fields.

5 References

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Furnell, J. and Hull, S.L. (2014). Cliff top habitats provide important alternative feeding resources for wading birds of conservation importance wintering on non-estuarine coasts. *Estuarine, Coastland and Shelf Science*. 139, p.119-126.

Jacobs (2016a). (*on behalf of Transport Scotland*). A96 Dualling Inverness to Nairn (including Nairn Bypass). DMRB Stage 3 Environmental Statement: Chapter 11 (Habitats and Biodiversity).

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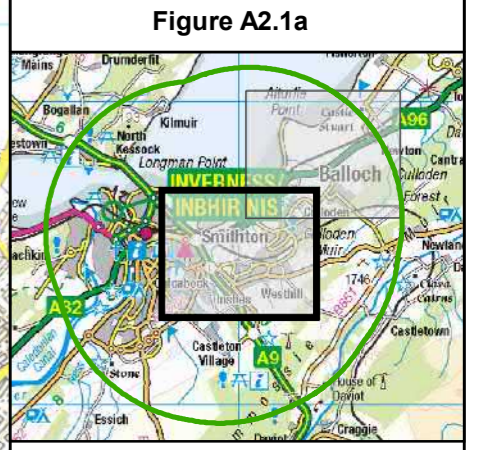
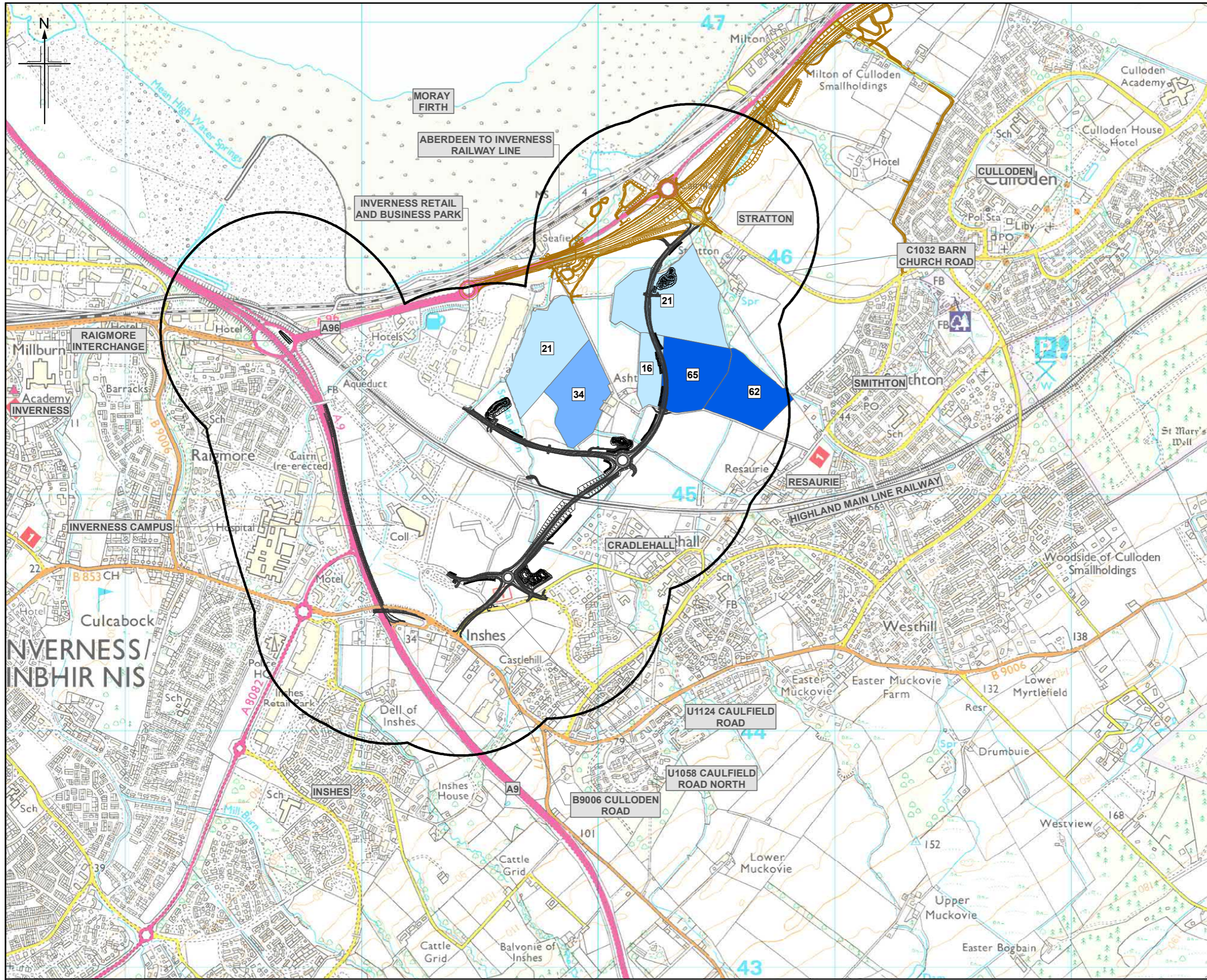
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Keller, V.E., Gallo-Orsi, U., Patterson, I.J. and Naef-Daenzer, B. (1997). Feeding areas used by individual pink-footed geese (*Anser brachyrhynchus*) around the Loch of Strathbeg, North east Scotland. *Wildfowl* 48, 52-64.

Patterson, I.J., Lambie, D., Smith, J. and Smith, R. (2013). Survey of the feeding areas, roosts and flight activity of qualifying species of the Caithness Lochs Special Protection Area. 2011/12 and 2012/13. Scottish Natural Heritage Commissioned Report No. 523b.

Rehfisch, M.M., Langston, R.H.W., Clark, N. A. and Forrest, C. (1993). A Guide to the Provision of Refuges for Roosting Waders. A report by the British Trust for ornithology under contract to English Nature. BTO, Thetford.

Scottish Natural Heritage (SNH) (2018). Inner Moray Firth SPA Citation.



Legend

- Proposed Scheme (DMRB Stage 3 design)
- A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
- 500m Study Area
- 5km Study Area

Peak number of curlew per field

- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 150

Number of individuals observed in field

CS0	SEPT 2019	DMRB Publication	CS	FT	KL	DGC
Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd

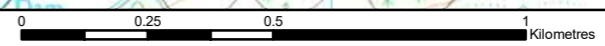


Project **A9/A96 Inshes to Smithton**

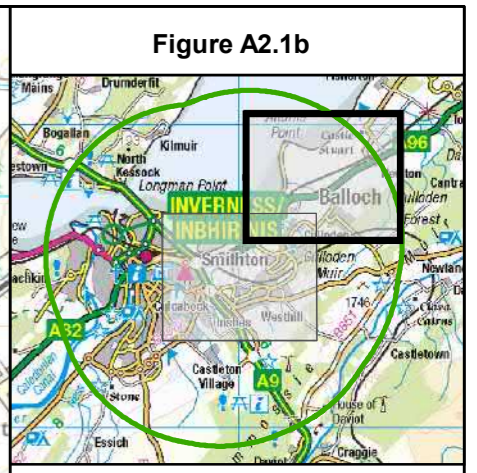
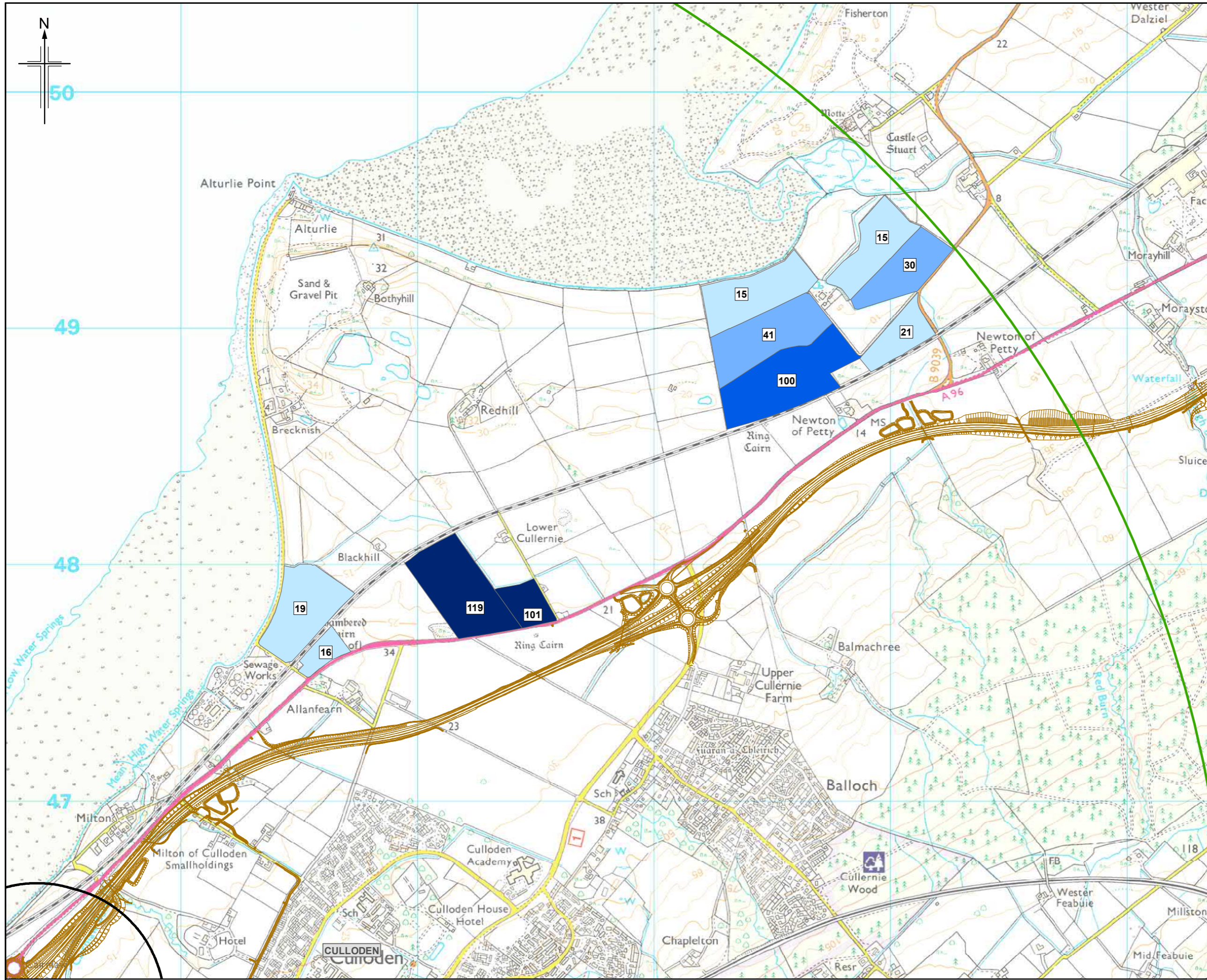
Drawing title **Habitats Regulations Appraisal Qualifying Species within 5km of the Proposed Scheme**

Sheet 1 of 5

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Jacobs No.	B2103501		
BIM No.	A9-A96IS-JAC-EGN-XXX-FG-EN-0073		
Drawing number	Figure A2.1a	Rev	C00



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Legend

- Proposed Scheme (DMRB Stage 3 design)
- A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
- 500m Study Area
- 5km Study Area

Peak number of curlew per field

- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 150

1 Number of individuals observed in field

CG0	SEPT 2019	EA/R Publication	CS	FT	KL	DGC
Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
JACOBS 95 Botwell Street, Glasgow, G2 7HX, UK Tel: +44(0)141 243 9000 www.jacobs.com						
 TRANSPORT SCOTLAND CORPORATE ALBA						
Client						
A9/A96 Inshes to Smiltton						
Project						
Habitats Regulations Appraisal Qualifying Species within 5km of the Proposed Scheme						
Sheet 2 of 5						
Drawing Status A - APPROVED AS STAGE COMPLETE						
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Drawing number Figure A2.1b Rev C00						

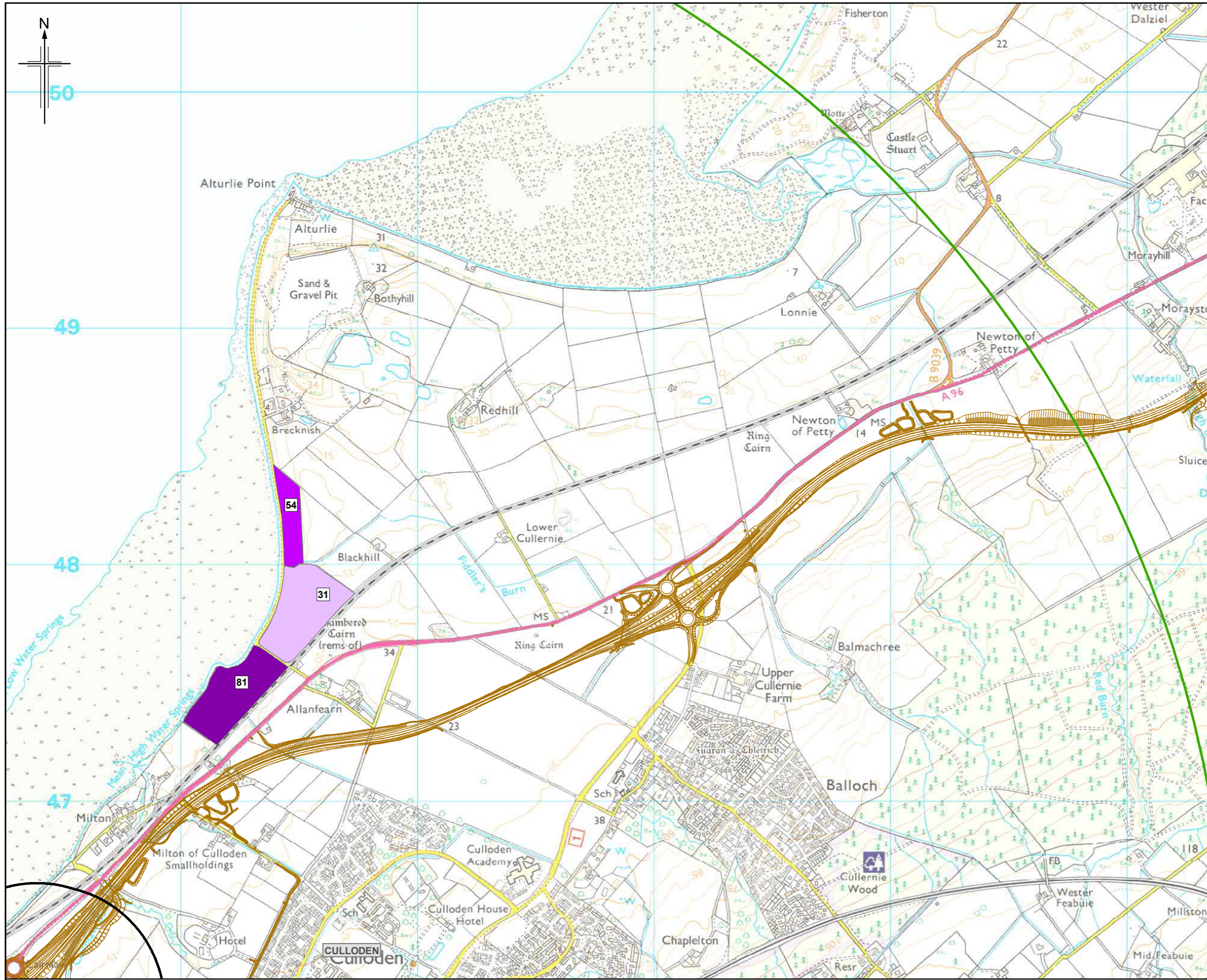
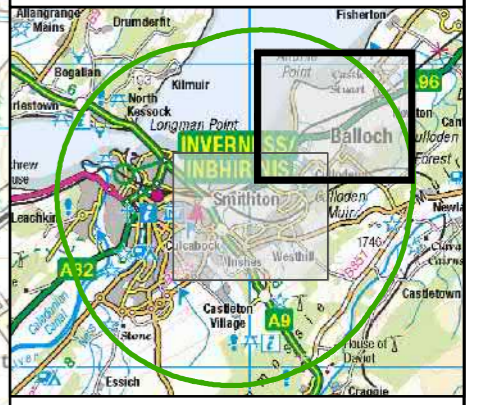


Figure A2.1c



- Legend**
- Proposed Scheme (DMRB Stage 3 design)
 - A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
 - 500m Study Area
 - 5km Study Area
- Peak number of oystercatcher per field**
- 1 - 35
 - 36 - 70
 - 71 - 105
 - Number of individuals observed in field

CS0	SEPT 2019	DMRB Publication	CS	FT	KL	DGC
Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd

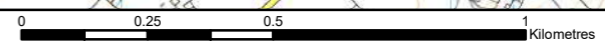


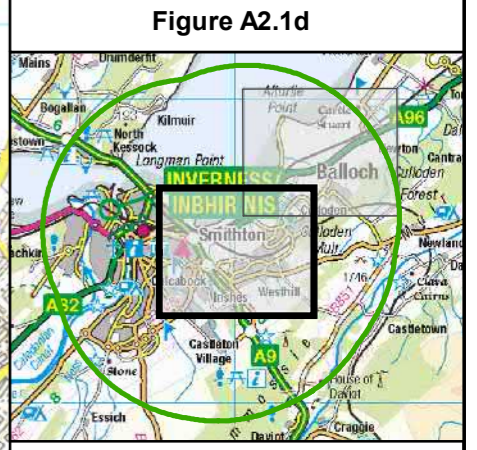
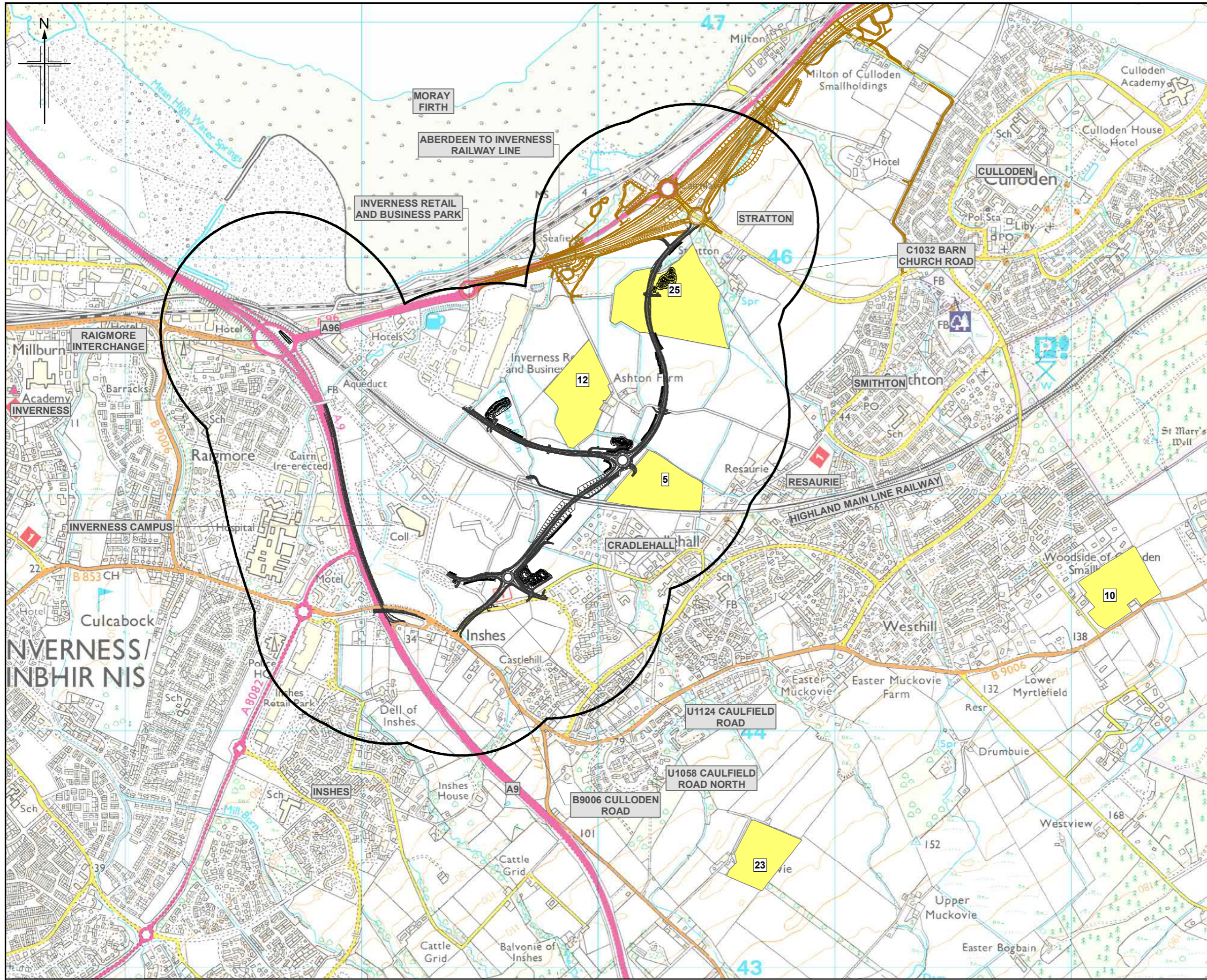
Client: **A9/A96 Inshes to Smithton**

Project: **Habitats Regulations Appraisal Qualifying Species within 5km of the Proposed Scheme**

Drawing Status	A - APPROVED AS STAGE COMPLETE		
Scale	1:15,000	@ A3	DO NOT SCALE
Jacobs No.	B2103501		
BIM No.	A9-A96IS-JAC-EGN-XXX-FG-EN-0075		
Drawing number	Figure A2.1c	Rev	C00

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- Legend**
- Proposed Scheme (DMRB Stage 3 design)
 - A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
 - 500m Study Area
 - 5km Study Area
- Peak Number of greylag geese per field**
- 1 - 40
 - 40 - 80
 - 80 - 120
 - 120 - 160
- Number of individuals observed in field

CS0	SEPT 2019	DMRB Publication	CS	FT	KL	DGC
Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd

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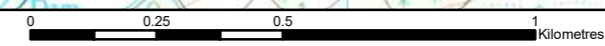
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Project **A9/A96 Inshes to Smitton**

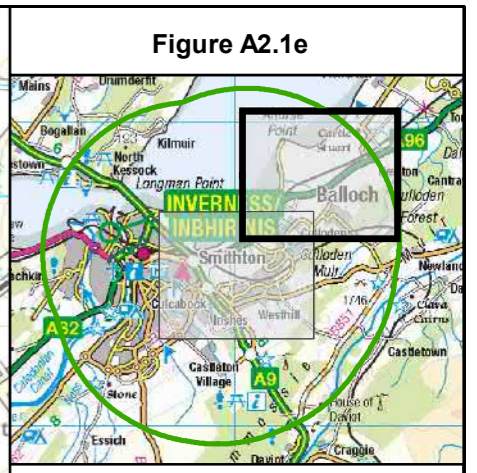
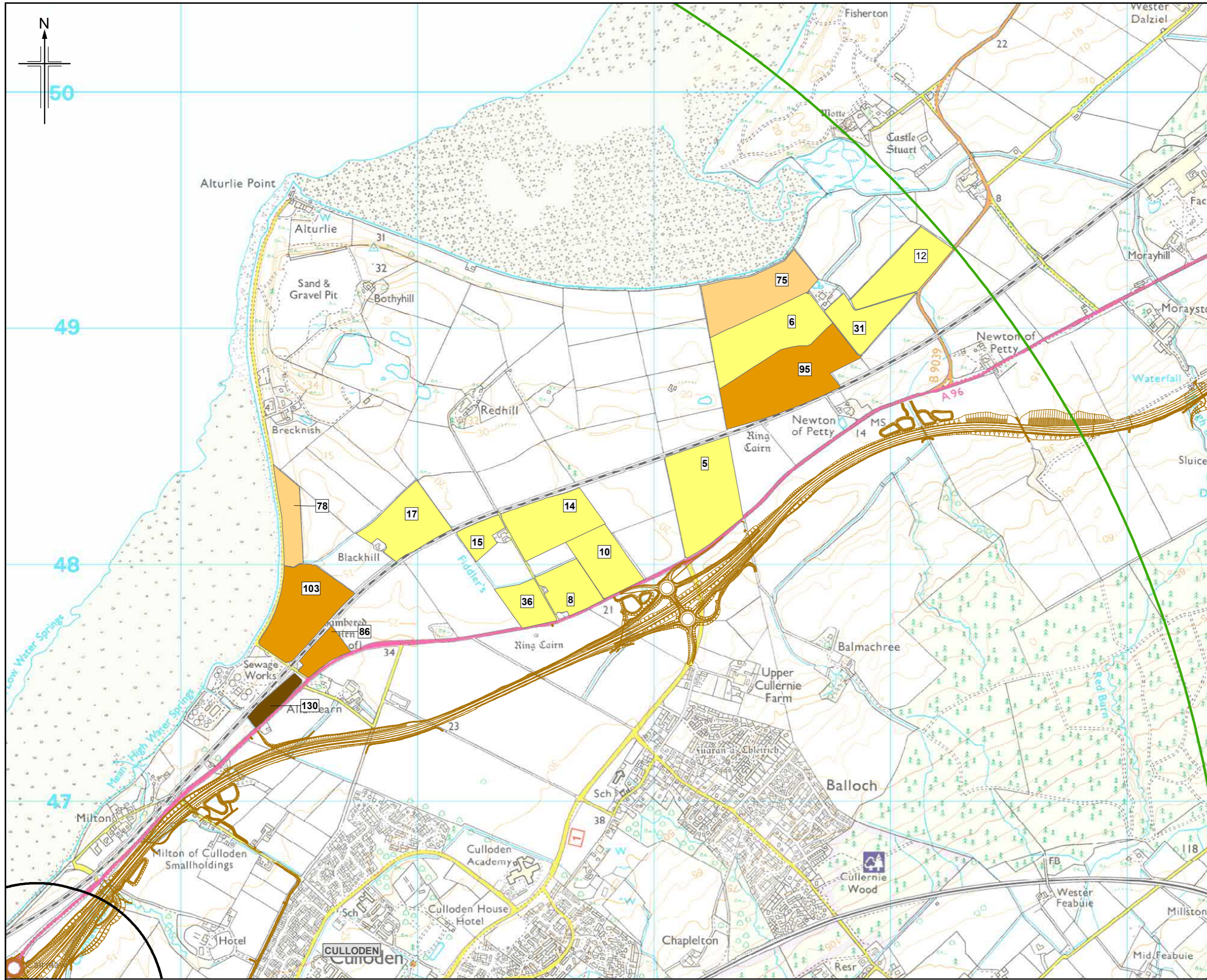
Drawing title **Habitats Regulations Appraisal
 Qualifying Species within 5km
 of the Proposed Scheme**

Sheet 4 of 5

Drawing Status	A - APPROVED AS STAGE COMPLETE		
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BIM No.	A9-A96IS-JAC-EGN-XXX-FG-EN-0076		
Drawing number	Figure A2.1d	Rev	C00



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- Legend**
- Proposed Scheme (DMRB Stage 3 design)
 - A96 Dualling Inverness to Nairn (including Nairn Bypass) Scheme Proposals
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 - 5km Study Area
- Peak Number of greylag geese per field**
- 1 - 40
 - 40 - 80
 - 80 - 120
 - 120 - 160
- Number of individuals observed in field

CS0	SEPT 2019	DMRB Publication	CS	FT	KL	DGC
Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd

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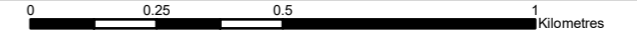


Client
A9/A96 Inshes to Smitton

Project
**Habitats Regulations Appraisal
 Qualifying Species within 5km
 of the Proposed Scheme**

Sheet 5 of 5

Drawing Status	A - APPROVED AS STAGE COMPLETE		
Scale	1:15,000	@ A3	DO NOT SCALE
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BIM No.	A9-A96IS-JAC-EGN-XXX-FG-EN-007		
Drawing number	Figure A2.1e	Rev	C00



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