



**SP ENERGY
NETWORKS**

**Erskine to Devol Moor
132kV Overhead Line Replacement Project**

Environmental Impact Assessment Report (EIAR)

Non-Technical Summary

June 2020

Erskine to Devol Moor 132kV Overhead Line Replacement Project Environmental Impact Assessment Report Non-Technical Summary

**Prepared by
LUC
on behalf of
SP Energy Networks**

June 2020



Preface

This Non-Technical Summary (NTS) accompanies an Environmental Impact Assessment Report (EIA Report) which has been prepared in support of an application by SP Energy Networks (SPEN) to the Scottish Government Energy Consents Unit (ECU) for Section 37 Consent to construct and operate a new 132kV overhead line ('the New 132kV OHL') between the existing Erskine substation and existing Devol Moor Substation, and the decommissioning of the existing 132kV steel tower overhead line ('Existing 132kV OHL'). The replacement of the Existing 132kV OHL with the New 132kV OHL, referred to collectively as the 'EDM Project', is located within the Inverclyde and Renfrewshire local authority areas.

The EIA Report accompanying the application comprises the following:

- Volume 1: Main Text, Figures and Appendices; and
- Volume 2: Landscape and Visual Amenity Visualisations.

Electronic copies of the NTS and all other EIA Report documents can be downloaded free of charge via the EDM Project website: https://www.spenergynetworks.co.uk/pages/erskine_devol_moor.aspx and the ECU portal.

A hard copy of the NTS can be requested free of charge. A hard copy of the full EIA Report costs £300.00. In addition, all documents are available in an electronic format (USB) for free.

Requests for any of the above should be made by contacting SPEN by email: devolmoor.projectmanager@sppowersystems.com.

Any representations to the application may be submitted via the ECU portal at www.energyconsents.scot/Register.aspx, by email to the Scottish Government, Energy Consents Unit mailbox at representations@gov.scot, or by post to the Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation.

Non-Technical Summary

Introduction

1.1 SP Energy Networks (SPEN) is seeking consent from the Scottish Ministers under section 37 of the Electricity Act 1989 and deemed planning permission under Section 57 of the Town and Country Planning (Scotland) Act 1997 (as amended) to construct and operate a new 132 kilovolt (kV) 'trident' wood pole overhead line (OHL) (hereafter referred to as the 'New 132kV OHL') between the existing Erskine substation and existing Devol Moor Substation. The application for deemed planning permission also includes the decommissioning and removal of the existing 132kV steel tower OHL (hereafter referred to as the 'Existing 132kV OHL'). The removal of the Existing 132kV OHL and its replacement with the New 132kV OHL is hereafter referred to collectively as the 'EDM Project'. The EDM Project is located within the Inverclyde and Renfrewshire local authority areas, as shown in **Figure 1**.

1.2 SPEN owns and operates the electricity transmission and distribution networks in central and southern Scotland. The transmission network includes more than 4,000km of OHLs and more than 360km of underground cables. In accordance with SPEN's legal duties, it is required to ensure efficient electricity supplies are maintained and assets are replaced when they come to the end of their operational life. The Existing 132kV OHL secures the supply of electricity to approximately 70,000 customers including many critical establishments such as the Queen Elizabeth University Hospital and Royal Hospital for Children at Govan Road, Glasgow. At over 75 years old, the Existing 132kV OHL is coming to the end of its operational life and requires to be replaced to ensure efficient electricity supplies are maintained in accordance with SPEN's legal duties.

1.3 The applications for section 37 consent and deemed planning permission are accompanied by an Environmental Impact Assessment Report (hereafter referred to as the 'EIA Report') which presents the findings of the Environmental Impact Assessment (EIA), which has been prepared by LUC and specialist subconsultants on behalf of SPEN, in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, as amended (hereafter referred to as 'the EIA Regulations').

1.4 This standalone Non-Technical Summary (NTS) has been prepared in accordance with the EIA Regulations to accompany the EIA Report, and provides a clear and easy to understand overview of the EDM Project and its likely significant effects.

Environmental Impact Assessment

1.5 The EDM Project is subject to EIA on the basis that the New 132kV OHL falls within Schedule 2 of the EIA Regulations. In particular it is a development to provide:

"(2) an electric line installed above ground—

- (a) With a voltage of 132 kilovolts or more;*
- (b) In a sensitive area..."*

And it is considered that significant effects on the environment are likely, therefore an EIA is required.

1.6 EIA involves the compilation, evaluation and presentation of any likely significant environmental effects resulting from a proposed development, to assist the consenting authority, statutory consultees and wider public in considering an application. Early identification of potentially adverse environmental effects also leads to the identification and incorporation of appropriate mitigation measures into the project design to avoid, reduce and, where possible, remedy potentially significant environmental effects. The EIA Report presents information on the identification and assessment of the likely environmental effects of the EDM Project. The significance of these effects (either positive or negative) has been assessed using criteria defined in the topic chapters of the EIA Report. Where appropriate, the significance of effects defined as major, moderate, minor or none have been identified. In the context of the EIA Regulations, effects assessed as being of '**major**' or '**moderate**' significance are considered to be significant effects.

1.7 The scope of the EIA was informed by the Scoping Opinion provided by the Scottish Government Energy Consents Unit (ECU) in February 2019 which included comments from a number of statutory and non-statutory consultees, including Inverclyde Council, Renfrewshire Council, Scottish Natural Heritage (SNH), the Scottish Environment Protection Agency (SEPA), Historic Environment Scotland (HES) and the Forestry Commission Scotland (FCS) (now Scottish Forestry) (SF).

1.8 In accordance with best practice guidance, responses received through scoping and experience in the construction and operation of developments similar to the EDM Project, a number of topics have been 'scoped out' where no likely significant effects are anticipated. These topics are traffic and transport, construction and operational noise, air quality, socio-economics, tourism and recreation, climate change, land use, aviation, defence and telecommunications, human health (including electro-magnetic fields¹) and major accidents and disasters.

1.9 As required by the EIA Regulations, the EIA Report was prepared by 'competent experts' in relevant environmental specialisms.

¹ SPEN commissioned National Grid to undertake an electro-magnetic field assessment in relation to the operation of the New 132kV OHL. The assessment identified that the New

132kV OHL would meet the relevant exposure limits, such that there would be no adverse effects on human health.

EDM Project and Surrounding Area

1.10 The EDM Project falls within the administrative boundary of both Renfrewshire Council and Inverclyde Council. An overview of the EDM Project is shown in **Figure 1**, with a more detailed breakdown provided in **Figures 2a-h**.

1.11 The main settlements within the surrounding area include Erskine, Bishopton, Langbank, Kilmacolm, Port Glasgow and Greenock. There are no settlements through which the New or Existing 132kV OHLs pass, and the population within the area is dispersed and formed by individual and small clusters of residential properties and farmsteads.

1.12 The key landscape and nature conservation designations within the surrounding area of the EDM Project include Clyde Muirshiel Regional Park, Kilpatrick Hills Local Landscape Area, the Inner Clyde Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Ramsar, Renfrewshire Heights SSSI, Dargavel Burn SSSI, Glen Moss SSSI and Formakin SSSI. The Existing 132kV OHL passes through the Dargavel Burn and Formakin SSSIs.

1.13 In terms of designated historic environment assets, the Existing 132kV OHL passes through Formakin Inventory listed historic Garden and Designed Landscape (GDL) and White Moss Roman Fort Scheduled Monument.

1.14 There are also a number of locally designated Sites of Important Nature Conservation (SINCs) and areas of Ancient Woodland along both the New and Existing OHL routes, the largest areas being Craigmarnloch Wood, Parkglan Wood and Barmore Hill.

1.15 The EDM Project comprises the following:

- Construction of a new 16.95km wood pole 132kV OHL, including the construction of 182 trident wood poles with an average height of 15m above ground; and
- The removal of the existing 16.5km 132kV OHL comprising 62 steel towers with an average height of 20m above ground.

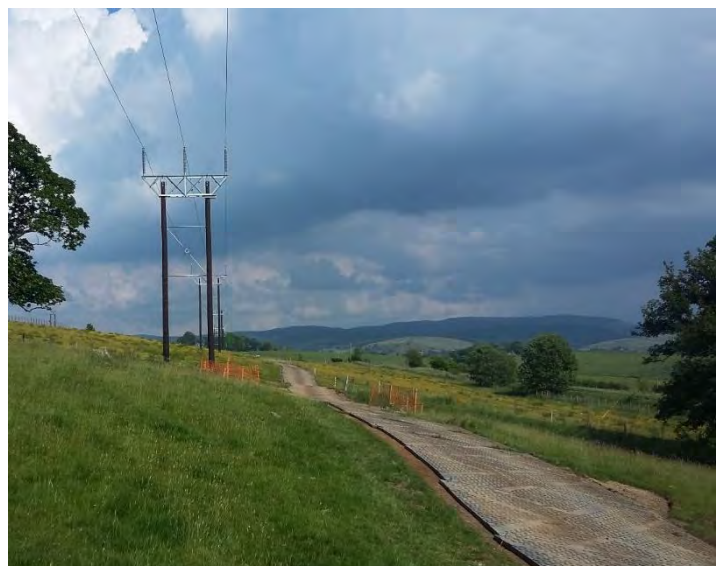
1.16 A photograph of a typical wood pole is shown below.



1.17 In addition to the components detailed above, other ancillary development will be required on a temporary basis during the construction and removal phases of the EDM Project and will be reinstated upon completion. Deemed planning permission is sought for these components comprising:

- Access tracks (two of which will be stone tracks for the Existing 132kV OHL removal);
- Watercourse crossings;
- Working areas (around wood poles and towers);
- Stone laydown areas;
- Construction compounds; winching/pulling areas; and
- Forestry felling.

1.18 A photograph of temporary matting proposed for access tracks is shown below.



1.19 Two temporary construction compounds are proposed. One will be located within the Erskine substation (this does not form part of the application as it is within SPENs current substation compound) and the other at Devol Moor substation. These will be required for the storage of material, equipment, site offices and staff welfare facilities. In addition to the temporary construction compounds, a number of temporary stone laydown areas will be required and will be used for the storage of materials and equipment by the construction team.

1.20 Approximately 6.0 hectares (ha) of forestry will be felled for the construction of the New 132kV OHL. The majority of this felling is required to achieve the 35m clearance (wayleave) either side of the OHL (70m in total) to ensure the safe operation and maintenance of the OHL. Felling will be undertaken utilising a mixture of mechanical harvesting, mulching and hand felling techniques.

1.21 A photograph of hand felling is shown below.



1.22 It is anticipated that the completion of the construction works (including reinstatement) for the New 132kV OHL will take approximately 13 months. The removal of the Existing 132kV OHL will be completed directly following the commissioning of the New 132kV OHL, although preliminary works, including vegetation clearance to allow access to tower locations, may commence beforehand. It is estimated that the removal of the Existing 132kV OHL (including reinstatement) will take approximately 12 months. Overall, the EDM Project will take approximately 19 months to complete.

1.23 Prior to the commencement of the EDM Project, SPEN will develop a Construction and Decommissioning Environmental Management Plan (CDEMP) to ensure compliance with all relevant conditions attached to the section 37 consent and deemed planning permission. The CDEMP

will also act as a means of delivering location specific mitigation identified in the EIA Report, and adhering to good practice (embedded mitigation) construction techniques.

Routeing and Design Strategy

1.24 At the outset of the EDM Project, SPEN undertook a routeing study with the objective of identifying a “*technically feasible and economically viable*” route for a New 132kV OHL that meets the technical requirements of the electricity network and “*causes the least disturbance to the environment and the people, who live, work and enjoy outdoor recreation within it*”.

1.25 SPEN's approach to routeing the New 132kV OHL was to adopt a ‘blank sheet’ approach which included, but did not solely reflect, the route of the Existing 132kV OHL to ensure that all potential route options which best achieved the routeing objective were identified.

1.26 The methodology for the routeing study comprised a number of well-established steps, which were undertaken sequentially, with each step informing the next, leading to the confirmation of the ‘preferred route’. The outcome of each was subjected to a technical review, and, where necessary, consultation to ensure that SPEN and key stakeholders were confident with the findings prior to commencing the next step.

1.27 In total, thirteen route options (with constituent route sections) were identified between the Erskine and Devol Moor substations for appraisal.

1.28 The route options were appraised using environmental criteria defined through desk based surveys of the study area, which continued to reflect the key considerations of the routeing methodology including length of route, landscape and visual amenity, ecology and forestry.

1.29 Technical issues considered during routeing included physical constraints such as existing low and high voltage OHLs and crossings of main transport routes (motorways and railway lines). Other factors including slope, altitude, access, large waterbodies and the location of other consented or proposed developments (including wind farms) were also taken into account.

1.30 The findings of the routeing process resulted in the ‘preferred route’, shown in **Figure 3**. This was presented in ‘The Erskine to Devol Moor 132kV Replacement Project: Routeing and Consultation Report’ (2018). SPEN then undertook a formal consultation process in February and March 2018 with statutory and non-statutory consultees, landowners and members of the public to seek feedback.

1.31 Consultation responses received were taken into account when making modifications to the ‘preferred route’, culminating in the ‘proposed route’ which was progressed to EIA scoping and detailed design stage. The detailed design was led by SPEN and reviewed by LUC's environmental team and also landowners, with changes to the design being made to avoid/minimise environmental effects and meet landowner objectives for land use.

1.32 The final design of the New 132kV OHL and associated infrastructure (including accesses to the Existing 132kV OHL) which is the subject of the EIA and applications for section 37 consent and deemed planning permission, is shown in **Figures 2a-h**.

Landscape and Visual Amenity

1.33 The landscape and visual amenity assessment (LVIA) considered the potential effects of the EDM Project on landscape character and resources and visual amenity during the construction and operation of the New 132kV OHL, and in the context of the decommissioning and removal of the Existing 132kV OHL. Cumulative landscape and visual effects with other developments were also considered.

1.34 The study area for the LVIA was a 3km radius from the New 132kV OHL, and was informed by professional judgement, consultation with Inverclyde Council, Renfrewshire Council, SNH and Zone of Theoretical Visibility (ZTV) mapping which shows where in the study area the New 132kV OHL may theoretically be visible.

1.35 There were a number of locations along the route of the New 132kV OHL where refinements, to minimise landscape and visual effects, were made as part of the iterative design process. This designed-in embedded mitigation included:

- Realignment of wood poles to minimise direct line of sight from properties;
- Avoiding locating wood poles within the southern extent of Port Glasgow Golf Club;
- Routeing north of Park Glen Wood to avoid tree loss from the mature deciduous woodland; and
- Minimising tree loss along Chestnut Avenue.

1.36 To assess the likely effects of the proposed EDM Project on visual amenity, a total of 11 representative viewpoints were chosen and agreed through consultation with statutory consultees to represent different viewing experiences.

1.37 Settlements, key transport routes and recreational routes located across the study area which fall within ZTV coverage were considered within the assessment. These included Bishopton, Port Glasgow, Dumbarton, the M8/A8, the A761 (between Port Glasgow and Kilmacolm), Inverclyde Railway Line and National Cycle Route 75 (Leith to Portvadie) and other local walking routes.

1.38 The method for assessment included field surveys, analysis of the ZTV, mapping and photography. Field survey work was carried out during early spring and summer 2019. Photography for all 11 viewpoints was generally captured in spring prior to trees coming into leaf, to present maximum potential visibility. The assessment was undertaken in accordance with best practice guidelines².

1.39 A fine grain landscape character assessment of the study area was undertaken and categorised under the following Local Landscape Character Types (LLCTs):

- Escarpment;
- Raised Beach and Coastal Edge;
- Rolling Pastureland;
- Rocky Hills and Ridges;
- Pastoral Valleys;
- Lowland Arable Farmland;
- Improved Upland Pasture;
- Forestry and Woodland;
- Moorland; and
- Settlement and Industry.

1.40 There are two designated landscapes within the study area, although the EDM Project is not located within either of these designated landscapes. These are the Kilpatrick Hills Local Landscape Area (LLA) within West Dumbartonshire Council and Clyde Muirshiel Regional Park within Inverclyde Council. No National Scenic Areas (NSAs), National Parks or Wild Land Areas (WLAs) are within the Study Area.

1.41 The developments identified for inclusion in the Cumulative LVIA (CLVIA) include the under-construction Inverclyde Wind Farm (eight turbines at 110m to tip), located within 1km of the western extents of the New 132kV OHL and the consented Cairncurran Farm Wind Turbine (53.7m to tip), located approximately 2km to the south of Devol Moor substation.

1.42 **No significant** effects on landscape character have been identified for the construction or operational stages of the New 132kV OHL, or as a result of the removal of the Existing 132kV OHL. There is likely to be **minor (positive)** effects on some landscape character types as a result of removing the existing steel towers.

1.43 **Significant (moderate)** effects have been identified during the construction stage on views for three of the 11 representative viewpoints (Viewpoint 5: B789, Viewpoint 6: Gallahill Road and Viewpoint 9: Devol Road) and from two routes (Core Paths) in close proximity to the New 132kV OHL. No significant effects are predicted for settlements.

1.44 **Significant (moderate)** effects have been identified during the operational stage of the New 132kV OHL for two of the 11 representative viewpoints (Viewpoint 5: B789 and Viewpoint 6: Gallahill Road) and from two routes (Core Paths). A **significant (moderate)** effect on Viewpoint 2: B815 Motorway Overbridge, is considered to be **positive** due to the removal of the Existing 132kV OHL steel towers seen in close proximity views.

² Landscape Institute and the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)

1.45 No significant cumulative landscape or visual effects have been identified.

Geology, Hydrology, Hydrogeology, Water Resources and Peat

1.46 The geology, hydrology, hydrogeology, water resources and peat assessment considered the likely effects of the EDM Project on geology (including peat), surface water pollution, damage to river banks or changes in channel form, localised flooding and watercourse bank erosion, and direct and indirect effects on potential groundwater dependent terrestrial ecosystems (GWDTEs) and designated sites.

1.47 Given SPEN's commitment to, and prior experience of, implementing accepted good practice during construction, operation and decommissioning, and the current regulatory context, many potential effects on the water and soil environment can be avoided or reduced due to this embedded mitigation. These good practice measures to prevent surface water and groundwater pollution and ground/peat disturbance from tracking, machinery operation and excavations will be implemented during construction and decommissioning and are reflected in the assessment. On the basis that there would be minor land take for the wood poles, and no groundworks undertaken during the operation of the New 132kV OHL, no significant effects were considered likely, and operational effects were scoped out of the assessment.

1.48 The study area for the assessment considered the New 132kV OHL route and the Existing 132kV OHL route to be decommissioned with a 250m buffer, extending to the relevant wider catchment for private water supplies (PWS), watercourses, GWDTEs and designated sites.

1.49 The assessment was informed by desk-based research (including the issuing of PWS questionnaires) and scoping responses received from Scottish Water, Marine Scotland, SNH, SEPA and Inverclyde and Renfrewshire councils. Field surveys were undertaken in January and September 2019 and included hydrological walkovers of the Existing 132kV OHL and the New 132kV OHL route to obtain baseline information, (including the location of PWS sources and verification of sensitive habitats) to inform constraints mapping for the location of infrastructure and subsequent assessment.

1.50 The EDM Project is located primarily within the larger River Clyde catchment area and the Clyde Outer Coastal waters. Onsite surface waters include several large watercourses, including the River Gryffe, Barochar Burn and Dargavel Burn; all tributaries of the River Clyde. There are also; three main reservoirs within the Study Area: Auchendores Reservoir, Leperstone Reservoir and Whitemoss Dam along with a number of minor ponds.

1.51 SEPA's Interactive Flood map has highlighted that a section of the New 132kV OHL adjacent to the River Clyde is susceptible to flood events, with some areas shown as having a high likelihood of being affected by flooding.

1.52 The Study Area includes three SSSIs, namely the Dargavel Burn SSSI, Formakin SSSI and the Inner Clyde SSSI, which is also a SPA and Ramsar site. None of the components of the New 132kV OHL are located within these designations. Two existing steel towers that will be decommissioned and removed are located within the Dargavel Burn SSSI and one steel tower is within the Formakin SSSI.

1.53 Four areas of high GWDTE potential were identified through the ecology surveys, however the hydrology survey and the conceptual hydrogeological regime demonstrated that three out of the four areas are unlikely to be dominated by groundwater. The fourth area is the Dargavel Burn SSSI wetland and is likely to be a combination of shallow groundwater and surface water based on the hydrogeological regime.

1.54 There are three small, localised areas of potential peat along the New 132kV OHL route and a small area of potential peat along the Existing 132kV OHL to be decommissioned. These areas were noted to be shallow and modified peatland habitats.

1.55 There are no public drinking water supply catchments within the Study Area. Following consultation with Inverclyde Council, Renfrewshire Council and the public, it has been indicated that 10 properties have PWS within the EDM Project Study Area. Of these 10 PWS, three had catchments within the New 132kV OHL route and one had a catchment within the Existing 132kV OHL route to be decommissioned.

1.56 Prior to construction further investigation will be undertaken to determine the location of PWS pipe-works to enable access tracks to be micro-sited to avoid damaging existing infrastructure.

1.57 Monitoring of water quality of PWS will be undertaken before, during and after the relevant construction or removal to ensure no contamination of the supplies. Monitoring will be undertaken by an Ecological Clerk of Works (ECoW) at relevant locations.

1.58 Should the water quality deteriorate during construction of the New 132kV OHL/removal of the Existing 132kV OHL, an emergency water supply will be installed at the PWS property.

1.59 Due to the implementation of good practice measures during construction, as well as the design modifications made during the routing and EIA process, it has been predicted that **minor (not significant)** effects will occur as a result of the construction of the New 132kV OHL.

1.60 Minor (not significant) or no effects are considered likely from the decommissioning and removal of the Existing 132kV OHL.

Ecology and Ornithology (Birds)

1.61 The ecology and ornithology assessment considered the potential effects of the proposed EDM Project during the construction and operational phases of the New 132kV OHL in

relation to designated sites, habitats of conservation concern, and breeding and wintering birds of conservation concern. Effects assessed in relation to the decommissioning and removal of the Existing 132kV OHL focussed on designated sites and breeding and wintering birds of conservation concern. Effects on protected species and cumulative effects were scoped out on the basis of there being a limited presence of protected species, and the study area not overlapping with other developments.

1.62 The study areas used to assess potential effects varied by feature. For designated sites, a study area of 5km was adopted. For habitats and protected species (terrestrial) surveys, a study area of 50m was used (200m along watercourses for otter), for aquatic species a study area of 200m was used and for protected bird species, a study area of 500m was used.

1.63 Field surveys were carried out within these study areas to establish habitat type and their location, alongside the presence of badger, otter, water vole, great crested newt and bat roosting potential. Breeding bird and flight activity surveys were also undertaken. All ecology surveys were undertaken over an 18-month period between 2018 and 2019 in appropriate conditions and seasons.

1.64 The assessment was undertaken in accordance with best practice guidance³⁴.

1.65 The New 132kV OHL does not cross any statutory designated sites. The Existing 132kV OHL includes two steel towers within the Dargavel Burn SSSI and one steel tower within the Formakin SSSI. Both sites, in addition to the Inner Clyde SSSI, SPA and Ramsar site, are all within 1km of the New 132kV OHL. There are also five non-statutory sites (SINCs) which are crossed by the New 132kV OHL and four Ancient Woodland Inventory (AWI) sites.

1.66 Grassland (including pasture and silage fields) is the most abundant habitat type within the study area (317ha or 67% of the study area). Woodland, forest and scrub is the second most abundant habitat type (48ha or 10% of the study area).

1.67 Breeding bird and flight activity surveys undertaken between April 2018 and March 2019 confirmed that there were 22 species of breeding raptors, waders and waterfowl of high conservation value within the study area, and 18 species of conservation value were recorded flying within the Study Area. Curlew, greylag geese, lapwing, herring gull and pink-footed geese were considered to be the species of birds most likely to be affected by collision risk as a result of the operation of the New 132kV OHL.

1.68 To minimise the risk of collision with the New 132kV OHL, it is proposed that line markers will be added between

Poles 31-70 and 128-148 where species that are vulnerable to collision risk have been frequently recorded.

1.69 It is proposed that low pressure vehicles will be used where removal works require access to the Dargavel Burn and Formakin SSSIs. In accordance with advice from SNH, the foundations of the two steel towers within the Dargavel Burn SSSI will be left in place to minimise effects on this sensitive habitat.

1.70 An ECoW will be appointed during construction of the New 132kV OHL and decommissioning/removal of the Existing 132kV OHL to ensure compliance with environmental legislation, project-specific mitigation, monitor the effectiveness of the line markers and ensure the implementation of the CDEMP.

1.71 No significant effects are predicted for habitats, designated sites or breeding and wintering birds in relation to the EDM Project.

Cultural Heritage

1.72 A cultural heritage assessment has been carried out to investigate the potential physical and setting effects⁵ of the EDM Project on designated and non-designated cultural heritage assets of all types. Cumulative effects were scoped out as no assets were considered to be affected (both in terms of physical and setting change) as a result of the EDM Project and alongside other developments in the study area.

1.73 The scoping response from Historic Environment Scotland (HES) has been used to inform the assessment.

1.74 Two study areas were used for the assessment. A 3km study area (outer study area) from the New 132kV OHL was defined based on the potential for significant effects arising from setting change to heritage assets, as informed by the ZTV. Within this, a 200m study area (inner study area) was defined around all infrastructure components of the EDM Project in relation to potential physical effects.

1.75 Following desk-based research, field surveys were conducted in the Inner study area in June 2018 to assess the nature, condition and extent of known heritage assets, and to identify and record any previously unrecorded assets. The survey also included visits to key cultural heritage assets within the outer study area to assess whether the New 132kV OHL could affect their cultural significance as a result of setting change.

1.76 Within the Inner study area of the EDM Project, there are four listed buildings, six scheduled monuments, one Inventory-listed historic garden and designed landscape (GDL) and 67 non-designated assets. Between the inner and outer study areas, there is one World Heritage Site (Frontiers of Roman Empire, Antonine Wall), 131 listed buildings, eight

³ CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater, Coastal and Marine.

⁴ SNH (2016). Guidance: Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds.

⁵ Setting is the way in which historic structures or places are understood, appreciated and experienced.

conservation areas, 21 scheduled monuments, three GDLs and 971 non-designated assets. Following review of these assets; 12 designated assets and 27 non-designated assets that have the potential to be affected by the EDM Project, either through direct physical changes or setting change, were assessed. As agreed with HES, the assessment of five of the designated assets is supported by visualisations.

1.77 No significant physical effects are predicted to cultural heritage assets from either the installation of the New 132kV OHL, or the decommissioning of the Existing 132kV OHL. Where physical effects cannot be avoided by micrositing works away from heritage assets, a programme of preservation by record, approved by the local authority archaeological advisor, will be implemented. Scheduled monument consent will be sought for works to remove the two existing steel towers from the Whitemoss Roman Fort Scheduled Monument. It is also proposed that, in addition to a watching brief during the removal of these towers, their concrete foundations be left in-place to minimise physical effects.

1.78 There are also **no significant effects** predicted in relation to the setting of cultural heritage assets during operation of the New 132kV OHL.

Forestry

1.79 The forestry assessment considered the likely effects of the proposed New 132kV OHL on the local forestry resource including the loss of broadleaf woodland (including ancient and native woodland). The assessment also considered the extent to which forestry restoration may be possible as a result of the removal of the Existing 132kV OHL. Cumulative effects were scoped out on the basis that other developments which result in tree loss will be required to undertake compensatory replanting.

1.80 The study area for the assessment was defined as a 70m corridor (or wayleave), 35m either side of the New 132kV OHL, as well as the footprint of the laydown areas, pulling areas and access tracks.

1.81 The assessment was informed by desk-based research, scoping responses received from (then) Forestry Commission Scotland (FCS) (now Scottish Forestry), Inverclyde Council, SNH and SEPA. Field surveys were undertaken between March and May 2019. This included walking along the proposed route of the New 132kV OHL and the Existing 132kV OHL and recording information on forest and individual tree condition.

1.82 Through the routeing and detailed design process of the New 132kV OHL, a number of design changes were made to avoid or minimise tree loss. The detailed design has also identified areas where the New 132kV OHL route can be accommodated without the need for felling, and in these areas

crowning or pruning works will be undertaken instead of felling the tree.

1.83 In addition to mitigation by design, a series of forestry good practice measures will be implemented through the CDEMP to minimise effects of the New 132kV OHL on forestry, and these were incorporated into the assessment.

1.84 The overall forestry resource through which the New 132kV OHL passes is 10.71ha. Of this, 9.78ha is broadleaf of which 4.01ha is designated as either Ancient-Semi Natural Woodland (ASNW) or classed as native woodland under the Native Woodland Survey of Scotland (NWSS). 0.93Ha is commercial conifer woodland.

1.85 Of the 10.71 forestry resource, 6.0ha is proposed to be felled. This comprises 5.43ha within the 70m wayleave to ensure the safe operation of the New 132kV OHL, 0.3ha to address windthrow effects⁶ and 0.27ha to physically construct the New 132kV OHL (access tracks and pulling areas). The felling of the 5.47ha of forestry is therefore considered to be long-term forestry loss. The remaining 4.71ha of forestry resource will not be felled as crowning (reducing tree height) will be possible to ensure the safe operation of the New 132kV OHL.

1.86 The effect of the New 132kV OHL wayleave on long term forestry loss is considered to be **moderate (significant)** on the local resource. The effect of the long-term loss of 2.54ha of ancient and native woodland is considered to be **major (significant)** on the local resource, given the high-sensitivity of these woodlands and the magnitude of change proposed. The temporary loss of forestry resource as a result of the construction of temporary access tracks and other infrastructure is **minor (not significant)**.

1.87 The measures likely to be most successful in managing the effects of felling and the long-term loss of broadleaved woodland (including planting of low-growing shrubs within the wayleave where the statutory safety clearances are maintained) are subject to landowner agreement, and these do not form committed mitigation. The effects described above are therefore residual effects.

1.88 The removal of the Existing 132kV OHL will present opportunities in several areas adjacent to woodland to replant or encourage natural regeneration of up to 7.08ha of woodland along the existing wayleave. Specific areas where this will be investigated with the required support of the landowner are where the decommissioned OHL passes through areas designated as ASNW or NWSS. SPEN does not have direct control over this land and will liaise with the landowners to seek woodland establishment on these sites as offsetting for the felling required for the New 132kV OHL. This is non-committed offsetting and therefore does not alter the judgement of residual effects on forestry.

⁶ 'Windthrow' effects occur when mature trees on the edge of forestry coupes are felled leaving trees which are less adapted to wind conditions vulnerable to damage or loss. To

rectify this, felling to a more 'windfirm' edge within the forestry coupe is undertaken. The 0.3ha of felling required to address windthrow effects for the New 132kV OHL will be replanted.

Summary

1.89 The EIA for the proposed EDM Project has been carried out in accordance with regulatory requirements and guidance on good practice. The findings of the surveys and the consultation have informed the design process. As a result, design changes have been introduced to avoid and/or minimise effects on landscape and visual amenity, cultural heritage, ecology and ornithology, geology, hydrology, hydrogeology, water resources, peat and forestry.

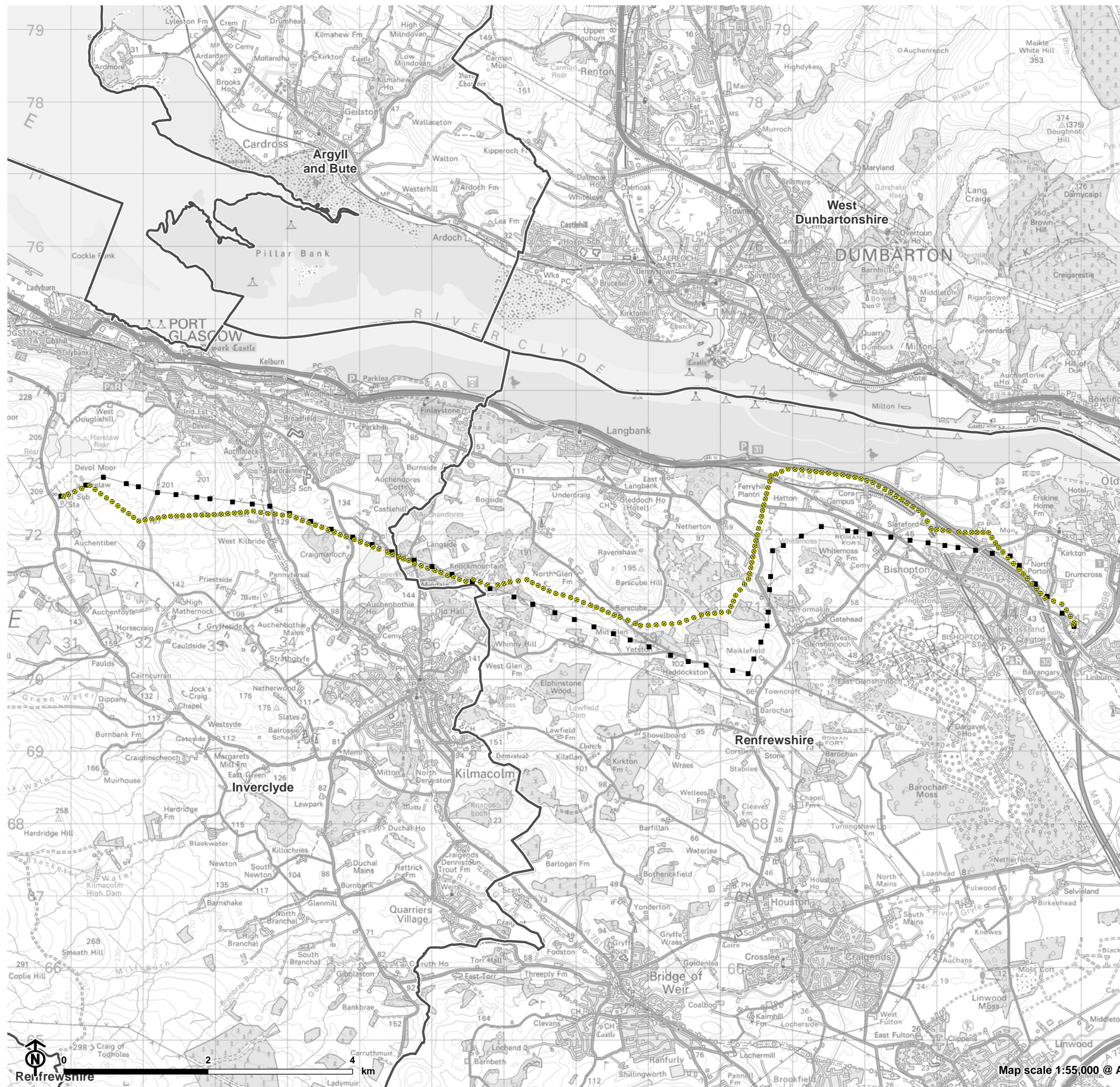
1.90 Potential **significant (negative)** residual effects are limited to visual amenity (during construction and operation of the New 132kV OHL) and forestry (during construction of the New 132kV OHL). There are no other significant effects identified.

1.91 There are also positive effects associated with the removal of the Existing 132kV OHL. A **significant (positive)** effect is predicted for Viewpoint 2: B815 Motorway Overbridge as a result of the removal of the steel towers. There are also minor (positive) effects likely in terms of effects on landscape character from a number of Local Landscape Character Types; views from the north of the River Clyde; and on the setting of Whitemoss Roman Fort Scheduled Monument and Formakin GDL due to the removal of the Existing 132kV OHL. There is also the potential for an area of 7.08ha to be replanted by the landowners along the Existing 132kV OHL wayleave corridor.

1.92 Overall, this EIA shows that, given the design process, and with the committed good practice measures and additional mitigation in place, most potential environmental effects associated with EDM Project can be avoided or minimised.



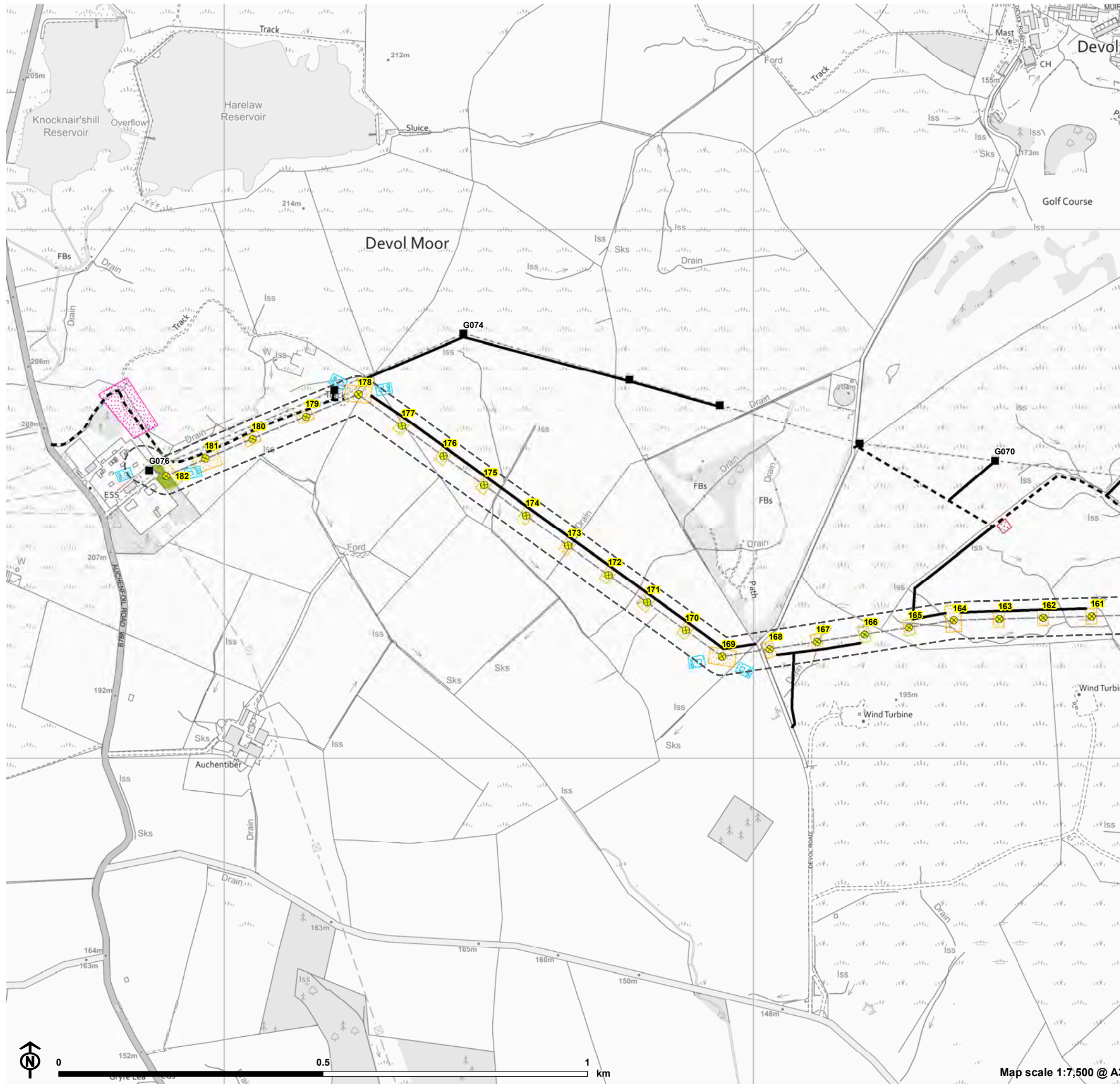
Figure 1: Overview of EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- ▭ Local Authority boundary



Figure 2a: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- Existing Access
- Construction Compound
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

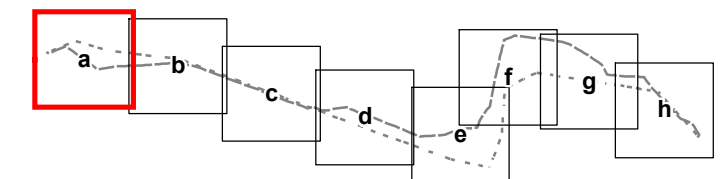
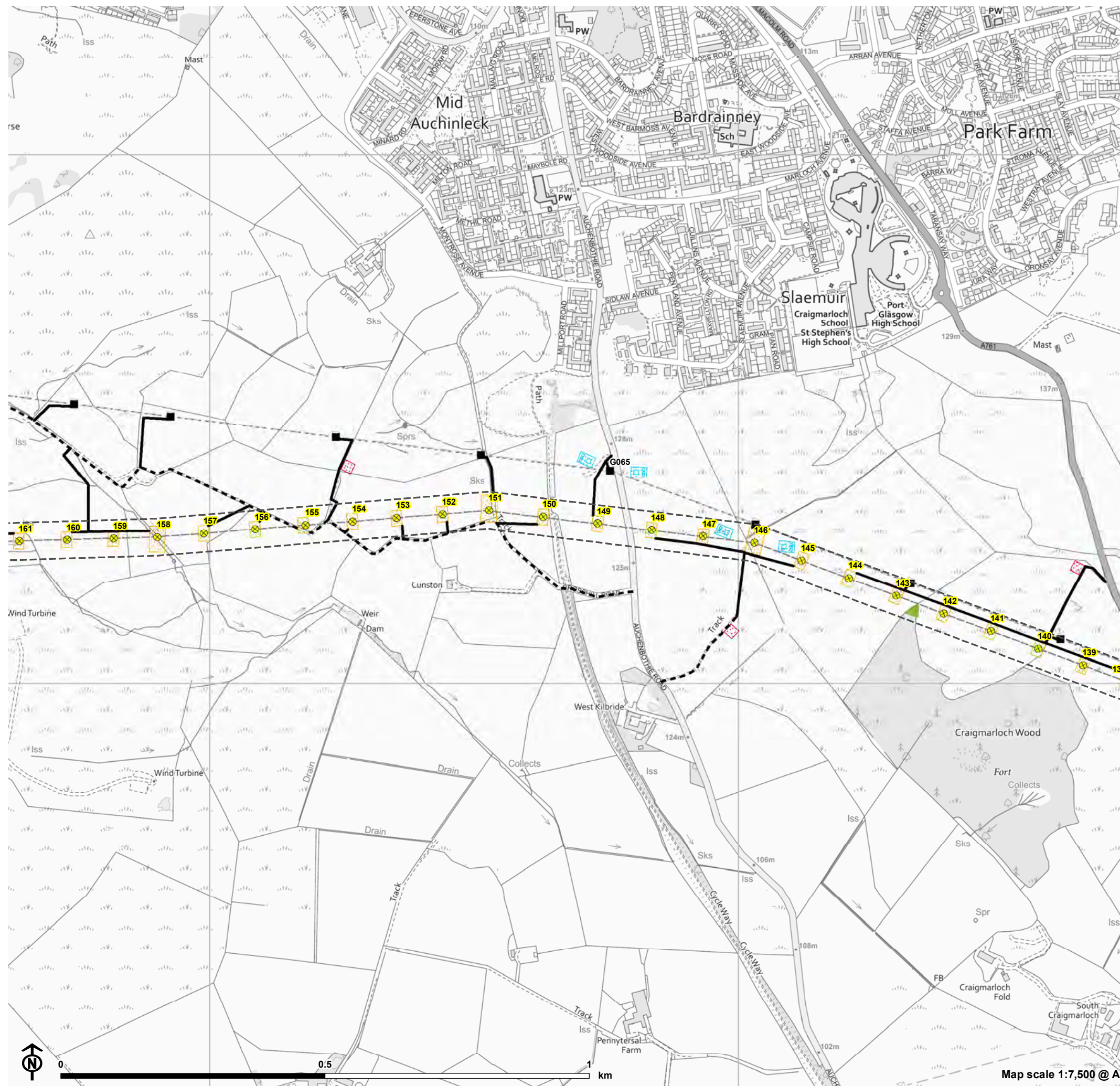


Figure 2b: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

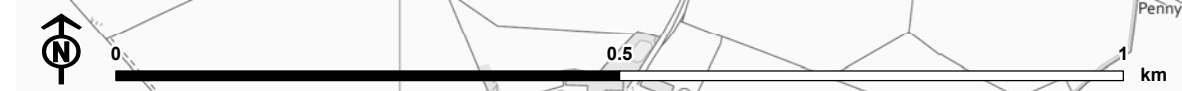
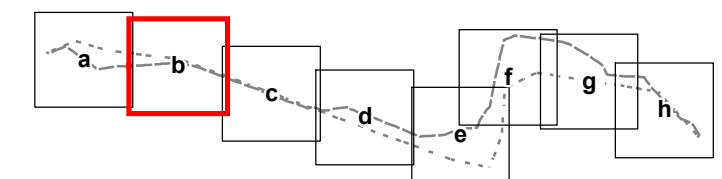


Figure 2c: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave
- Felling for Windthrow

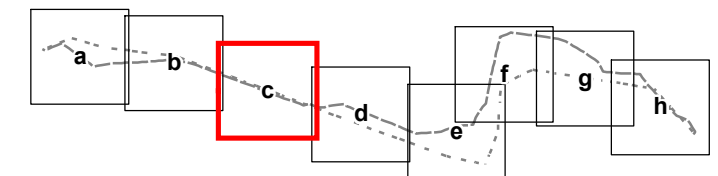
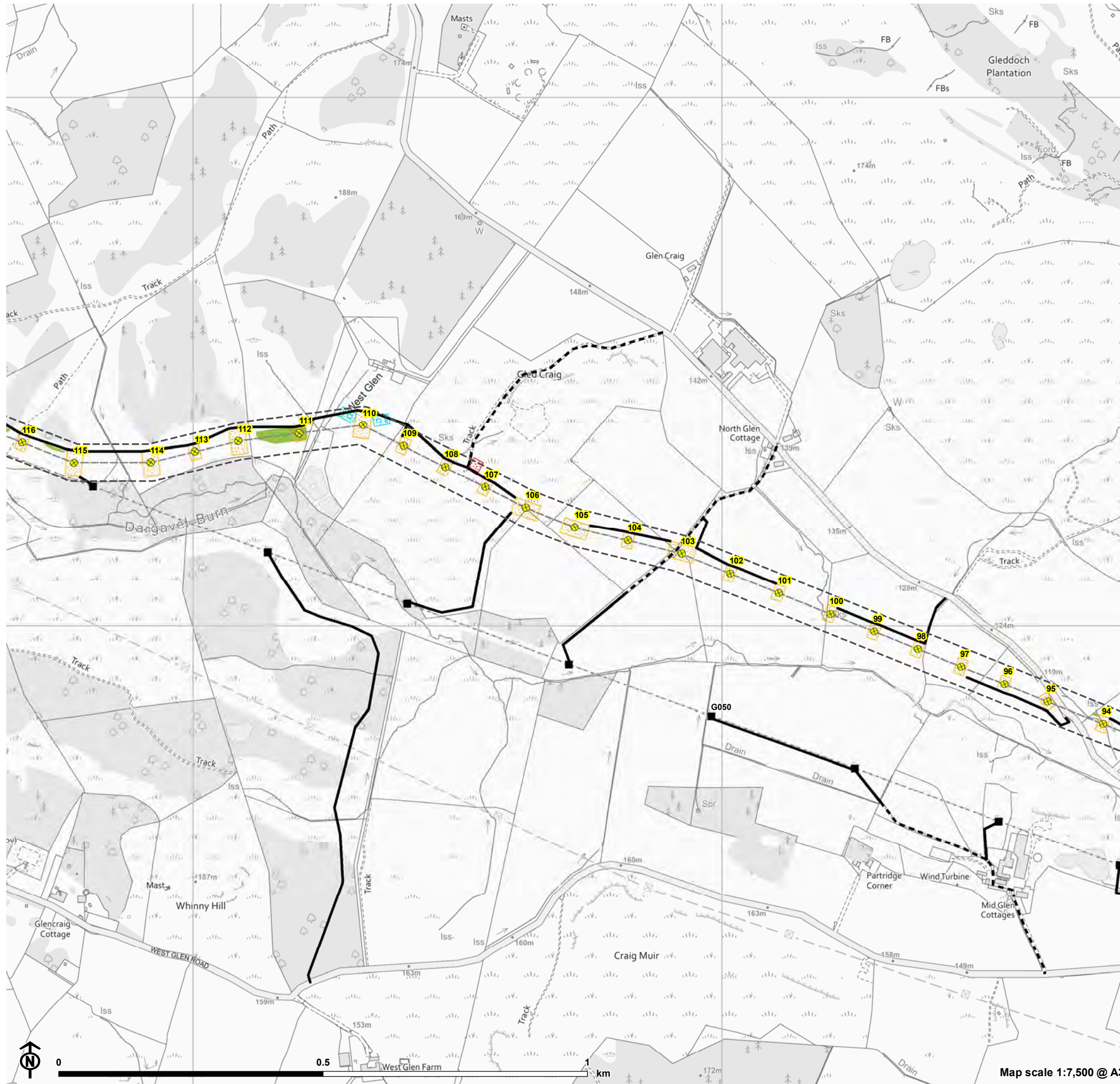


Figure 2d: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

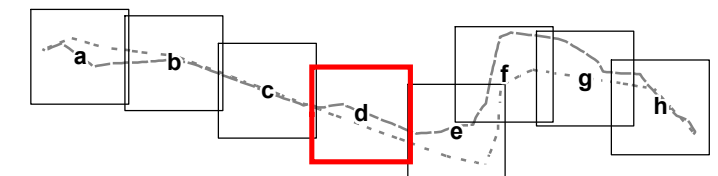
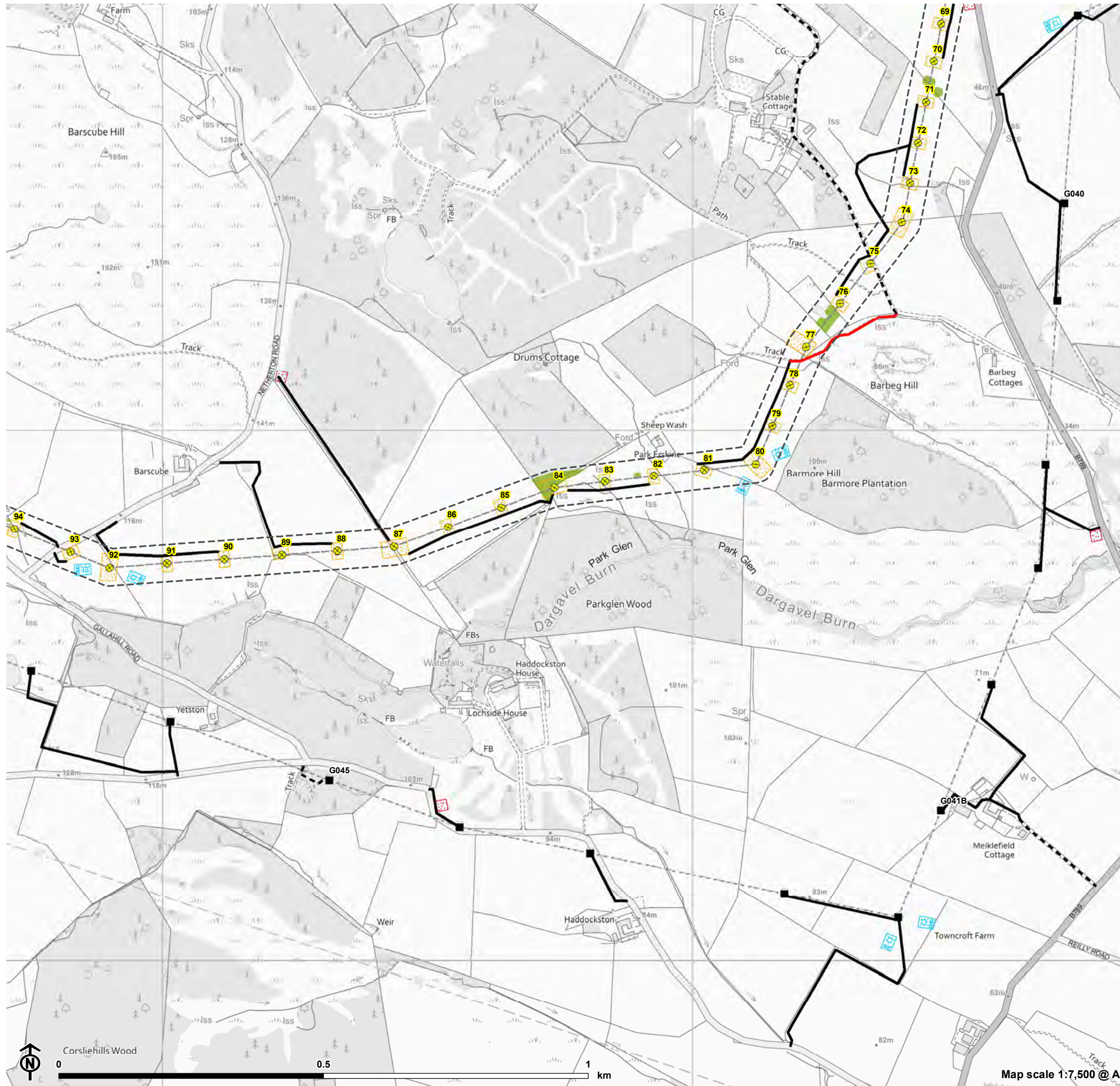


Figure 2e: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

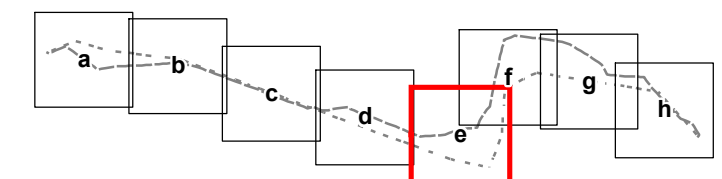
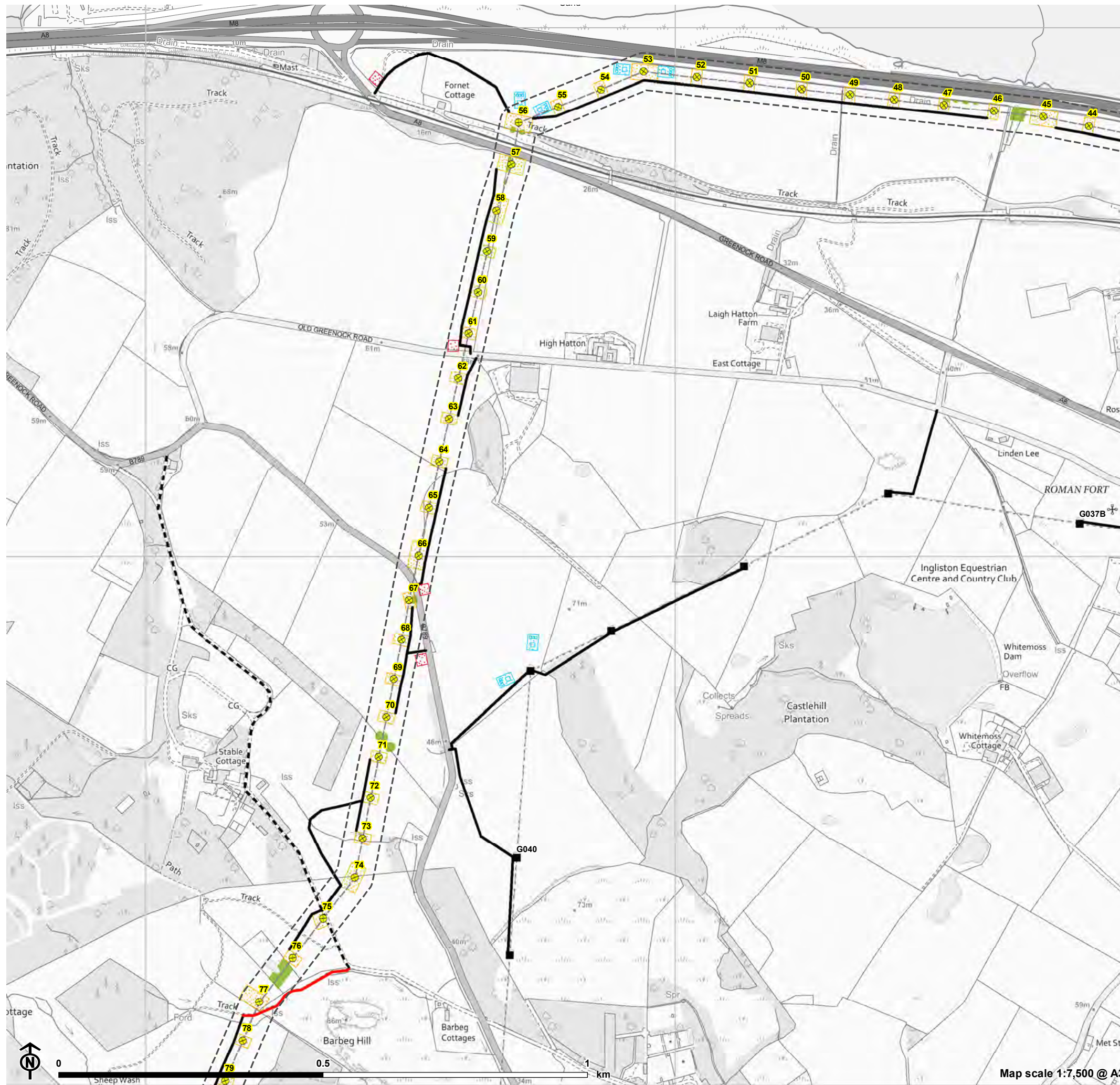


Figure 2f: EDM Project



- New 132kV OHL (wood pole)
 - Existing 132kV OHL (towers to be removed)
 - New 132kV OHL route
 - Existing 132kV OHL route
 - New Access
 - New Access (Stone)
 - Existing Access
 - Working Area
 - Proposed Stone Laydown Area
 - Pulling Position
 - 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

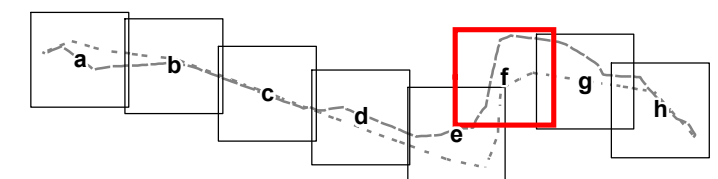
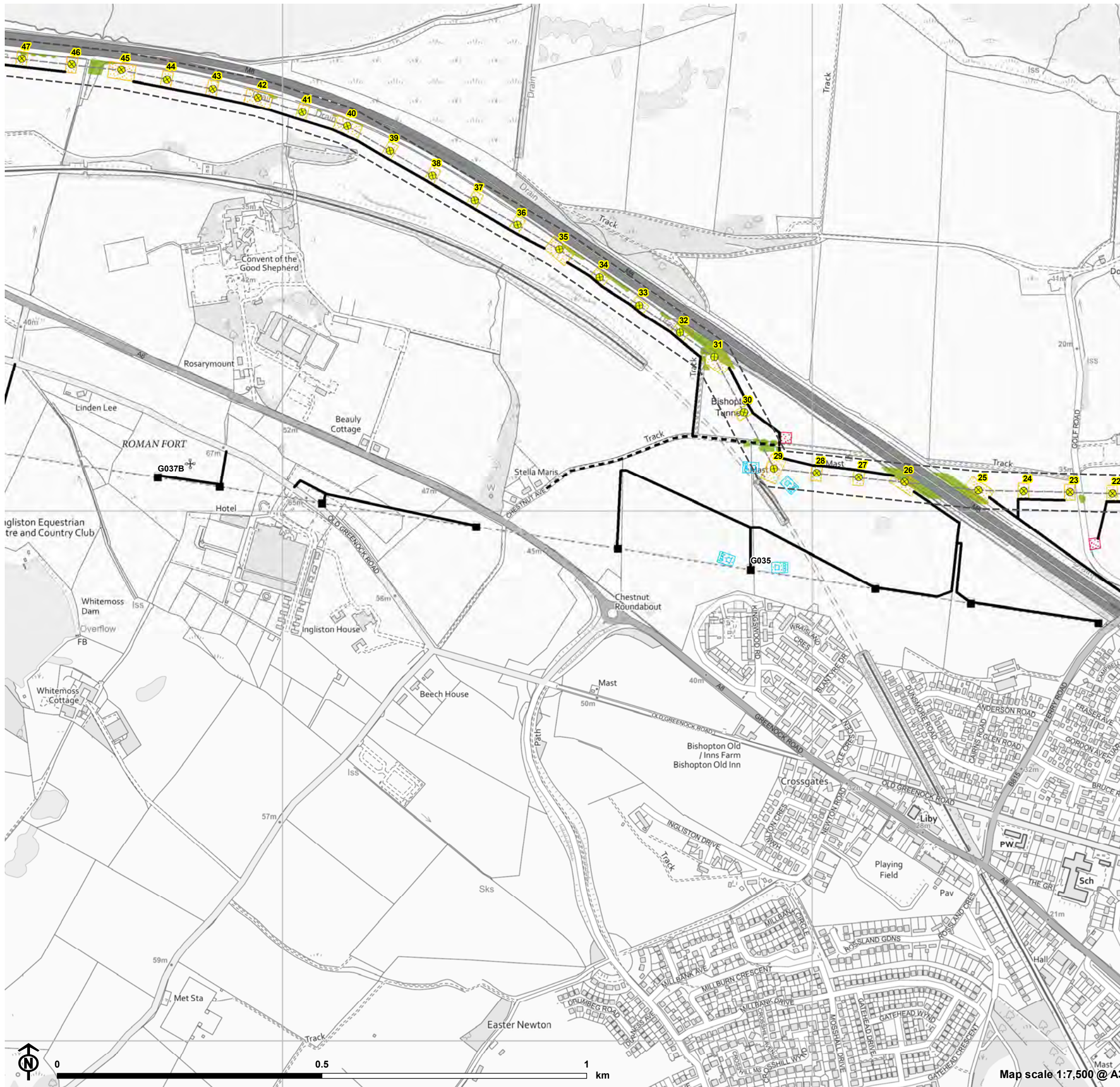


Figure 2g: EDM Project



- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New 132kV OHL route
- Existing 132kV OHL route
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave

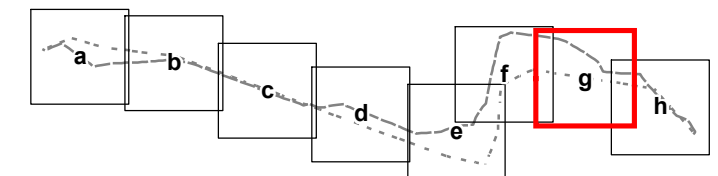
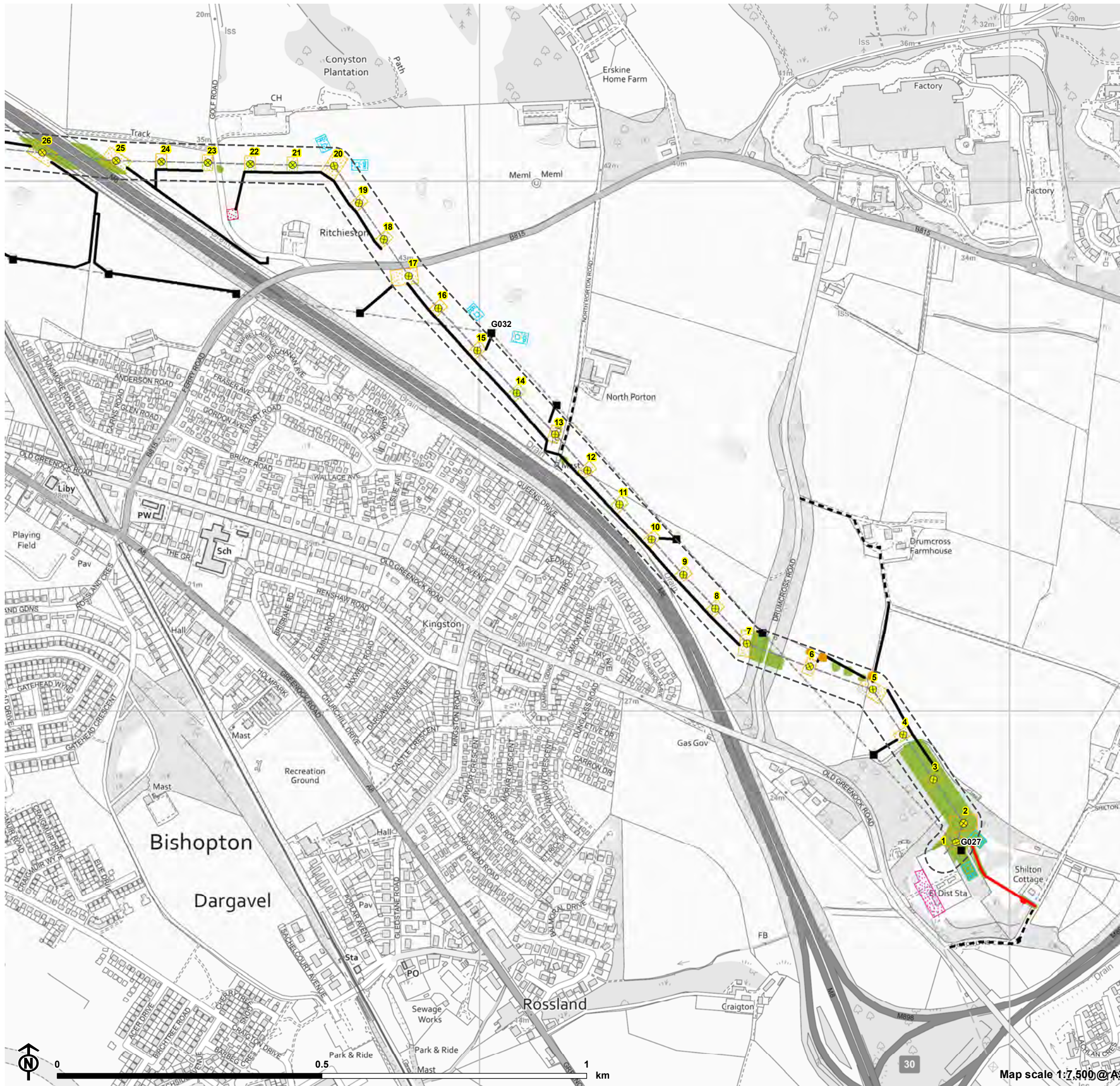
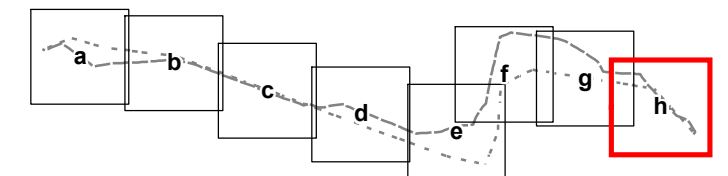
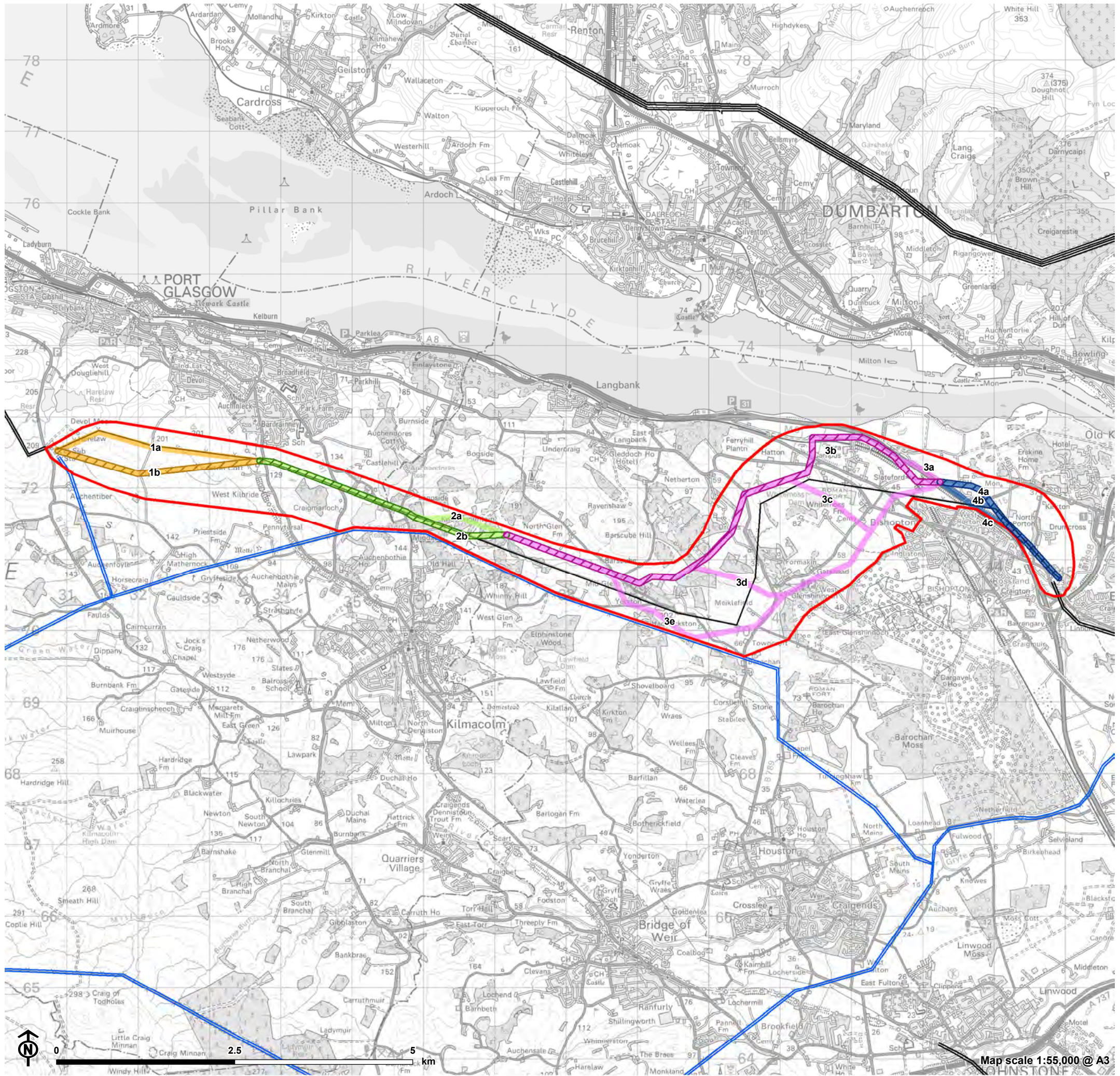


Figure 2h: EDM Project



- New 132kV OHL (wood pole)
 - Existing 132kV OHL (towers to be removed)
 - New 132kV OHL route
 - Existing 132kV OHL route
 - New Access
 - New Access (Stone)
 - Existing Access
 - Construction Compound
 - Working Area
 - Proposed Stone Laydown Area
 - Pulling Position
 - 70m Wayleave of proposed new OHL route
- Tree clearance**
- Felling in 70m Wayleave
 - Crowning





Erskine to Devo Moor
for SPEN



Figure 3: Route Options and Preferred Route

- Study Area
- 132kV overhead lines
- 400kV overhead lines
- Route Option Sections**
- Section 1
- Section 2
- Section 3
- Section 4
- Preferred Route**
- Section 1
- Section 2
- Section 3
- Section 4

