



TKUP – Westfield Substation Extension

Transport Statement

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TKUP – Westfield Substation Extension

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TKUP – Westfield Substation Extension

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1 Introduction

1.1 Background

- 1.1.1 Stantec UK Limited (Stantec) has been appointed by SP Transmission plc (SPT) to prepare a Transport Statement (TS) in support of a Planning Permission in Principle (PPiP) application for the erection of a 400kv electricity substation, decommissioning of existing 275kv equipment, 33kv underground cabling works, and associated infrastructure including plant, machinery, accesses, drainage, underground cables and landscaping at Westfield Substation, Fife.
- 1.1.2 The detailed proposals will be submitted via AMSC applications if Planning Permission in Principle is granted.
- 1.1.3 The proposals form part of the Tealing to Kincardine Upgrade Project (TKUP). TKUP comprises several different elements, which all contribute to the upgrading of the electricity transmission network to provide additional grid capacity across the Fife area.
- 1.1.4 The existing site is currently occupied by agricultural land. The location of the proposed Westfield Substation Extension in a general context is shown within **Figure 1.1**. The Existing Site Plan is included as **Appendix A** and The Proposed Site Plan is included as **Appendix B**.
- 1.1.5 This TS provides an assessment of the transport impacts associated with the construction phase of the proposals and the associated construction traffic. During the operational phase, the Proposed Development will generate one vehicle trip approximately every six months and therefore is considered to have a negligible impact on the local road network.

1.2 Report Structure

- 1.2.1 The remainder of this TS is structured as follows:
- **Section 2:** Description of the existing site and local road network, including a review of Personal Injury Collision data in the vicinity of the site;
 - **Section 3:** Description of the Proposed Development, including details of site access and a review of the internal layout;
 - **Section 4:** Review of national and local transport related planning policies;
 - **Section 5:** Assessment of trip generation associated with the existing and Proposed Development during a weekday morning and evening road network peak hour period; and
 - **Section 6:** Summary and conclusion.



2 Existing Conditions

2.1 Introduction

- 2.1.1 This section provides a description of the application site and the local road network, including a review of Personal Injury Collision data in the vicinity of the site.

2.2 Application Site

- 2.2.1 The location of the site in a general context is shown in **Figure 1.1**.
- 2.2.2 The site is located adjacent to the B9097, situated approximately 1.5km east of Ballingry town centre. The site is bound by the B9097 to the north, an unnamed road to the west, agricultural land to the south, and the existing Westfield Substation to the east. The existing site is occupied by agricultural land.
- 2.2.3 Vehicle access to the existing Westfield Substation is currently taken from an unnamed road via a priority junction with the B9097. A plan showing the existing layout of the site including the exiting Westfield Substation to the west is included as **Appendix A**.

2.3 Local Road Network

- 2.3.1 **Figure 2.1** shows the site location in context with the strategic road network and **Figure 2.2** shows the site location in context with the local road network.
- 2.3.2 The B9097 is a single two-way carriageway that is measured approximately 6.5m wide and subject to the National Speed Limit (60mph). The B9097 serves access to the existing Westfield Substation, Fife power station, E P R Scotland (electric utility company) and agricultural land. The B9097 has an east to west alignment and provides connections to the B920 approximately 1.2km northwest of the existing Westfield Substation access, and to the B921 approximately 2.5km southeast of the existing Westfield Substation access. No footways or street lighting are provided along the extent of the B9097 between the B920 and B921.
- 2.3.3 To access the strategic road network to the west of the site (M90) and avoiding built-up areas and villages, vehicle traffic can travel west of the site along the B9097, turning north onto the B920. The B920 provides connections to another section of the B9097 (approximately 660m north of the B9097/B920 ghost island priority junction). This second section of the B9097 stretches for approximately 5.4km to the west where it connects to the B996 via a priority junction. Traffic will then head south along the B996 for approximately 250m before travelling west again onto a third section of the B9097 via a priority junction. The B9097 at this point provides connections to the M90 at Junction 5 southbound or northbound via one-way dual carriageway slip roads.
- 2.3.4 The B920 can be accessed via a ghost island priority junction with B9097. The B920 is a single two-way carriageway that is subject to the National Speed Limit (60mph) within the vicinity of the B9097/B920 junction. The B920 changes speed limit from the National Speed Limit (60mph) to 30mph approximately 340m south of the B920/B9097 ghost island priority junction where the carriageway heads towards Ballingry. No footways or street lighting are provided along the extent of the B920 north, but footways are present approximately 400m south of the B920/B9097 ghost island priority junction as the B920 travels into Ballingry.
- 2.3.5 The second section of the B9097 is a single two-way carriageway subject to the National Speed Limit (60mph). The B9097 is measured at approximately 5.4km in length, providing connections between the B920 and the B996 via priority junctions. The carriageway serves access to agricultural land, residential dwellings, and Loch Leven. No footways or street lighting are provided along the extent of the B9097.



- 2.3.6 The B996 is a single two-way carriageway subject to the National Speed Limit (60mph) that provides connections to the third section of the B9097 and M90, with further connections to Gairney Bank and Kinross in the north and Kelty in the south. No footways or street lighting are present along the extent of the carriageway along the route towards the M90.
- 2.3.7 The third B9097 section is a single two-way carriageway subject to the National Speed Limit (60mph) accessed from the B996 via a priority junction. The B9097 provides connections to the M90 Junction 5 approximately 190m to the west of the B996 / B9097 priority junction and the A997 in Drum approximately 10km to the west B996 / B9097 priority junction. No footways or street lighting are present along the extent of the carriageway.
- 2.3.8 The M90 is a two-way dual carriageway that provides connections to Perth approximately 22.6km in the north of Junction 5, and the M9 (Junction 1a) and Edinburgh approximately 23.4km to the south of Junction 5.
- 2.3.9 Routing east, vehicles can access the strategic road network via the A92 at Lochgelly. The A92 is situated approximately 4.8km south of the Proposed Development. The A92 provides connections to Crossgates approximately 7.3km southwest of the A92 junction at Lochgelly, and Kirkcaldy and Dysart approximately 5.5km northeast of the A92 junction at Lochgelly.
- 2.3.10 To access the A92, vehicles can route along the B9097 east. The B9097 connects to the B921 approximately 2.4km east of the Proposed Development access via a priority junction. Vehicles routing along this carriageway would head south towards Cardenden. The B921 is a single carriageway road and is subject to the National Speed Limit (60mph), however, the speed limit reduces to 30mph approximately 40m north of the B921 / Pilgrims Way Avenue junction. The B921 provides connections to the B981 (Jamphlars Road) at the B921 / B981 (Jamphlars Road) / B981 (Main Street) roundabout junction.
- 2.3.11 Vehicles travel west at the B921 / B981 (Jamphlars Road) / B981 (Main Street) roundabout junction to route along the B981 (Jamphlars Road). The B981 (Jamphlars Road) is a single carriageway road and is subject to a 30mph speed limit until the speed limit increases to the National Speed Limit (60mph) adjacent Bowhill Recycling Facility. The B981 travels approximately 3km southeast of Cardenden before connecting to the B9149 at the B981 / Auchterderran Road / B9149 roundabout at Lochgelly.
- 2.3.12 Vehicles travelling to the A92 head south at the B981 / Auchterderran Road / B9149 roundabout along the B9149 until joining the A92 approximately 1.2km to the south. The B981 is a single carriageway road subject to a 40mph speed limit which increases to the National Speed Limit (60mph) approximately 420m north of the A92 junction.

2.4 Road Safety

- 2.4.1 Personal Injury Collision (PIC) data for the most recent five-year period from 2019 to 2023 has been obtained from the CrashMap database, which is an official database of personal injury collision data in Great Britain.
- 2.4.2 PIC data is recorded by severity of injury, as slight, serious, or fatal. These are statistical definitions regarding the injuries to the casualties of a collision, which mean the following:
- **Slight:** at least one person is slightly injured, but no person is killed or seriously injured. Here a slight injury is one where treatment does not require a hospital stay as an in-patient;
 - **Serious:** at least one person is seriously injured, but no person is killed. Here a serious injury is one where treatment requires a hospital stay as an in-patient; and
 - **Fatal:** where a human casualty sustained injury, which caused death less than 30 days after the collision.



- 2.4.3 The PIC data was reviewed for the B9097 to the east and west of the existing Substation access between the B920 and the B921. It has been identified that one serious collision occurred along the B9097 within the last five years of most recent information available. The serious collision occurred approximately 860m to the west of the existing access. The collision involved only one vehicle in February 2021.
- 2.4.4 As only one collision has occurred within a five-year period along this section of the B9097 and as this collision involved only one vehicle it can be concluded that there are no inherent road safety issues with the existing road layout in the vicinity of the site.

2.5 Accessibility

- 2.5.1 Due to the nature of the Proposed Development, the majority of visits to the site will be taken by vehicle rather than walking, cycling, or public transport. A detailed assessment of accessibility has therefore not been included within this TS.
- 2.5.2 It is noted that existing pedestrian and cycle infrastructure are not provided along the B9097, B920, B996, or at Junction 5 of the M90. The lack of infrastructure is due to the rural nature of the roads. A shared footpath and cycle path named 'Loch Leven Heritage Trail' is situated north of the B9097 between the B920 and the B996 segregated from the carriageway. The Trail falls within Perth and Kinross Authority and is a part of the Core Paths network, noted as PTMK/100.
- 2.5.3 Upon review of Google Maps, the closest bus stop to the site is noted as the Capledrae Farm bus stop situated approximately 540m west of the existing access. This bus stop, however, does not provide any infrastructure (layby, flagpole, timetable etc.). The next alternative closest bus stop that provides infrastructure is the Malcolm Street Stop within Ballingry along the B920 approximately 2km southwest of the Proposed Development.



3 Development Proposals

3.1 Introduction

- 3.1.1 This section describes the Proposed Development, including the overall proposals, site access, swept path analysis and parking provision.

3.2 Development Proposals

- 3.2.1 The Proposed Development seeks to implement the erection of a 400kv electricity substation, decommissioning of existing 275kv equipment, 33kv underground cabling works, and associated infrastructure including plant, machinery, accesses, drainage, underground cables and landscaping at Westfield Substation, Fife.
- 3.2.2 The Proposed Site Plan is included as **Appendix B**.

3.3 Site Access

- 3.3.1 As can be seen from **Appendix B**, the proposed vehicular access to the site will be retained at the existing substation access, although reconfigured to also provide access to the site. The existing substation access is in the form of a priority junction with the B9097.
- 3.3.2 The Proposed Development seeks to include proposed road markings and widening of the internal road to include hatched areas for over-run area for HGV and AIL vehicles (including for transformer deliveries). The current proposals are indicative, and further details are to be provided and developed at the detailed design stage.
- 3.3.3 Given the nature of the Proposed Development, pedestrian and cycle travel to the site will be negligible, however, internal footpaths are proposed for access and maintenance to the transformers and are shown in **Appendix B**.
- 3.3.4 Drawing SC003-024-RPS-XX-SK-C-003 PO2 (Access Track and Visibility), SC003-024-RPS-XX-SK-C-004 PO2 (Access Track Transformer Deliveries), and RPS-XX-SK-C-005 PO3 (Access Track HGVs) included as **Appendix C** demonstrate the proposed indicative road markings, vehicle tracking and visibility splay at the access. The drawings were produced by RPS Group on behalf of RJ McLeod in May 2025.
- 3.3.5 It is noted that road markings shown in **Appendix C** are indicative only and will be developed at the detailed design stage.
- 3.3.6 A visibility splay of 2.4m x 215m has been shown in **Appendix C** at the site access, which is in accordance with the Design Manual for Roads and Bridges for a major road speed limit of 60mph, which the B9097 is subject to. It is acknowledged that vegetation within the visibility splay should be removed between 600mm and 2m in height. The visibility splay drawing in **Appendix C** note that 'vegetation is to be removed as required'.
- 3.3.7 **Appendix C** also includes swept path analysis drawing of a HGV and transformer delivery vehicle (Abnormal Indivisible Load vehicle, AIL) at the access. The swept path drawings demonstrate that a HGV is able to enter the site without conflict from the west and east. The drawings also show that the AILs are able to enter and egress the site from the east without conflict.
- 3.3.8 The construction works associated with the underground cabling will not require any additional access points, and it has been confirmed that construction works associated with the underground cabling shall take place within land owned by SP Energy Networks.



3.4 Proposed Construction Vehicle Routing

- 3.4.1 The designated construction and decommissioning vehicle routes have not been agreed with Fife Council at this stage. The final vehicle routes will be agreed and confirmed in a detailed Construction Management Plan (CMP) post planning.
- 3.4.2 Although the construction routes are yet to be agreed, two worst-case scenarios have been proposed at this stage to provide a robust assessment and include the following:
- Scenario 1: 100% of HGV movements route west to/from Junction 5 of the M90; and
 - Scenario 2: 50% of HGV movements route west to/from Junction 5 of the M90 and 50% of HGV movements route east along the B9097 and then south towards the A92.
- 3.4.3 It is envisaged that the HGVs will route from the Proposed Development towards the M90 via the following roads:
- B9097 – between the Proposed Development access and B920;
 - B920 – between the B9097 (Proposed Development Road) and B9097 (travelling west to the M90);
 - B9097 (second stretch) – between B920 and B996 (to the west);
 - B996 – adjacent to Junction 5 of the M90; and
 - Junction 5 of the M90.
- 3.4.4 Alternatively, it is envisaged that the HGVs will route from the Proposed Development towards the A92 via the following roads:
- B9097 – between the Proposed Development and B921;
 - B921 – between the B9097 and B981 (Jamphlars Road);
 - B981 (Jamphlars Road) – between B921 and Auchterderran Road;
 - B9149 – between B981 and A92 junction; and
 - A92 junction south of Lochgelly.
- 3.4.5 With regard to AIL (transformer deliveries) movements, Drawing SC003-024-RPS-XX-SK-C-004 PO2 (Access Track Transformer Deliveries), included as **Appendix C**, provides the following annotation:

'Assumed transformer deliveries will enter site from the east. Any deliveries approaching from the west are assumed to overshoot the junction, turn the tractors and then drive in from the east. Assumed transformer removals will leave site travelling to the east. Where onward travel is to the west, a similar approach to the deliveries will be adopted.'

- 3.4.6 The contractor, once appointed, will be responsible for arranging AIL movements on the local and strategic road networks. Further details of the AIL movements will be included as part of planning.

3.5 Parking Provision

Parking Standards

- 3.5.1 The Proposed Development will anticipate a negligible number of vehicles during the operational phase, with the majority of trips generated during the construction phase. Parking standards have not been set out for a development of this nature, however, for the avoidance of doubt, relevant general standards have been reviewed and summarised below.



- 3.5.2 In accordance with Appendix G (Transportation Development Guidelines) of Making Fife's Places Supplementary Guidance (2018) the document sets out that for General Industrial land uses:

'In all cases provision must be made for the parking and turning of servicing vehicles off road. Consideration should also be given for overnight parking areas.'

- 3.5.3 Additionally, Appendix G (Transportation Development Guidelines) of Making Fife's Places Supplementary Guidance (2018) sets out that the minimum permissible size of a parking space is 5m x 2.5m.

- 3.5.4 Furthermore, Appendix G (Transportation Development Guidelines) notes:

'Vehicular accesses formed directly onto classified roads (A, B & C) require the provision of a turning area for a car within the curtilage of the site. The turning area shall be formed outwith any parking areas. The dimensions and geometry of turning areas will be agreed on a site-specific basis by Transportation Development Management officers.'

Proposed Parking

- 3.5.5 No designated parking area is currently provided on site; however, space is proposed for HGVs to manoeuvre internally. Further detail is to be provided within the detailed design stage. During the detailed design stage, if parking is to be proposed on site, the parking is to be in accordance with the standards.
- 3.5.6 Parking associated with the construction phase of the site is to be detailed within a construction management plan.

3.6 Construction Management Plan

- 3.6.1 A Construction Management Plan (CMP) for the Proposed Development is to be undertaken post planning, submitted and approved by Fife Council. The CMP will include items such as:

- Phasing/Construction programme;
- Working days/hours;
- Route for construction vehicles to take from strategic road network;
- Type of construction vehicles;
- Details of agreements for movement of AILs;
- Details of where construction staff will park during the day;
- Confirmation that construction vehicles can enter and exit site in forward gear;
- Details of loading/unloading and storage areas; and
- Confirmation of wheel washing facility.



4 Legislation, Policy and Guidance

4.1 Introduction

4.1.1 This section sets out the relevant national and local transportation related policies and guidance against which the Proposed Development should be assessed, and comprises the following documents:

- National Planning Framework 4;
- Fife Council Local Plan'
- Making Fife's Places Supplementary Guidance;
- Fife Council Local Development Plan (2017); and
- Fife Council Local Transport Strategy.

4.2 National Policy

National Planning Policy 4 (February 2023)

4.2.1 The National Planning Policy 4 was adopted in February 2023 and has been produced to set out a long-term spatial strategy including a set of national planning policies to form part of the statutory development plan. The document sets out the spatial principles, regional priorities, national developments and national planning policy. The document replaces the NPF3 and Scottish Planning Policy (2014).

4.2.2 The document sets out six spatial principles which include:

- Transition – we will empower people to shape their places and ensure the transition to net zero is fair and inclusive;
- Conserving and recycling assets – we will make productive use of existing buildings, places, infrastructure and services, locking in carbon, minimising waste, and building a circular economy;
- Local living – we will support local liveability and improve community health and wellbeing by ensuring people can easily access services, greenspace, learning, work and leisure locally;
- Compact urban growth – we will limit urban expansion so we can optimise the use of land to provide services and resources, including carbon storage, flood risk management, blue and green infrastructure and biodiversity;
- Rebalanced development – we will target development to create opportunities for communities and investment in areas for past decline, and manage development sustainably in areas of high demand; and
- Rural revitalisation – we will encourage sustainable development in rural areas, recognising the need to grow and support urban and rural communities together.

4.2.3 Through applying the spatial principles, the national spatial strategy supports the delivery of:

- Sustainable places;
- Liveable places; and



- Productive places.

4.3 Local Policy

Fife Council Local Plan (FIFEplan) (2017)

- 4.3.1 The FIFEplan sets out where and how development will take place in the area over a 12-year period between 2014 and 2026 to meet the future environmental, economic, and social needs, and provides an indication of development beyond this period.
- 4.3.2 The strategy is to support the creation of place through the allocation of land for new homes, implementing policies to encourage new, high quality developments, growing business activity and employment to allow more job opportunities and improve standard of living.
- 4.3.3 The document focuses on homes, employment land, town centres, low carbon and energy, minerals, heritage, rural areas, quality of place, and planning obligations.
- 4.3.4 The following statement has been provided within the FIFEplan, Fife Spatial Strategy Chapter, Low Carbon and Energy section 19:

'In the field of energy the Fife Energy Corridor is recognised in National Planning Framework 3 as an area of regional importance for the energy sector and where the focus of investing in the energy sector has brought wider economic benefits. The Fife Energy Corridor covers some of the most scenic stretches of the Fife Coast and the protection of the natural attributes of the area will be addressed when individual development proposals are being implemented or considered.'

Making Fife's Places Supplementary Guidance (2018)

- 4.3.5 Making Fife's Places Supplementary Guidance 2018 was adopted on 16th August 2018. The document explains the role of good design in creating successful places where people will want to live work and play through an integrated approach to buildings, spaces and movement. The document sets out how to achieve good place design through Fife's planning policies and the design process.
- 4.3.6 Appendix G of the Fife Council Transportation Development Guidelines has been reviewed as part of this Transport Statement.

Fife Council Local Development Plan (2017)

- 4.3.7 The Fife Council Local Development Plan (LDP) was adopted in September 2017 and outlines the strategies and policies associated with planning across the Fife region. The document provides the strategic framework for the years 2014 to 2026 to meet future environmental, economic, and social needs.
- 4.3.8 The document sets out nine strategic development areas within Fife and reviews the transport key challenges and opportunities associated with development. Whilst mostly associated with mixed-use or housing development, the LDP has been reviewed as part of the preparation of the TS.

Fife Council Local Transport Strategy (2023 – 2033)

- 4.3.9 The Local Transport Strategy for Fife 2023-2033 sets out Fife Council's vision for transport in Fife over the next ten years. The strategy is to tackle important issues and invest in the transport system.



4.3.10 The vision of the transport strategy is that by 2033, Fife's transport system supports communities with affordable, seamless and sustainable access to all aspects of our daily lives. To meet the vision, the strategy sets out four priorities:

- Fair access to daily activities;
- Safe and secure travel for all;
- A just transition to net zero; and
- A resilient transport network.



5 Trip Generation

5.1 Introduction

- 5.1.1 This section provides a forecast of the trip generation associated with the existing site and the Proposed Development construction and decommissioning phases. A first principles approach has been carried out to demonstrate the likely traffic impact of the Proposed Development on the local road network.
- 5.1.2 In the first instance, it is understood that due to the nature of the Proposed Development, the operational phase is anticipated to generate negligible trips on the local road network. As a result, the operational phase has been scoped out of the trip generation assessment.
- 5.1.3 The proposed development also includes for underground cabling. The construction traffic associated with the underground cabling works is not proposed during the peak construction period and therefore, no further traffic impact assessment has been undertaken. In addition, the underground cabling construction works does not require any additional access points and construction associated with the underground cabling shall take place within land owned by SP Energy Networks. As a result of the above, the underground cabling construction has not been included as part of this assessment.
- 5.1.4 An assessment of the construction phase and decommissioning trip generation has been undertaken.

5.2 Proposed Trip Generation

Construction Phase

- 5.2.1 The proposed construction traffic has been calculated and provided by SPT.
- 5.2.2 Although the Proposed Development will generate trips across the entire construction phase period, SPT identified a peak construction period which is anticipated to generate the most trips.
- 5.2.3 The peak construction period was identified between March and June 2027 (during the 'Bulk Earthworks' period). As the peak period is anticipated to generate the most trips during the construction phase, these trips have been used within the assessment as they are robust and will assess the worst-case scenario.
- 5.2.4 SPT identified that the construction peak period anticipates a total of 78 two-way HGV trips per day. The 78 two-way HGVs will access and exit the site to the west and will route towards the M90 strategic road network.
- 5.2.5 The anticipated 'working hours' have not been provided at this stage. Therefore, at this stage based on the assumption of a typical 40-hour working week with 8-hour working days (with a 1-hour lunch), the construction phase peak period would anticipate a total of 11 two-way HGV trips per hour which is considered low.
- 5.2.6 Confirmation has not been provided at this stage if construction vehicles are able to operate during morning and evening peak hours, and therefore it cannot be determined if the HGV traffic generated by the construction period will have an impact on the local road networking during the morning and evening peak periods. The construction operational periods and working hours will be detailed in a CMP post planning, once a contractor has been appointed.
- 5.2.7 Nevertheless, an assessment on the percentage increase of HGVs (anticipated during the construction peak period) on the local road network over an average 24-hour period has been undertaken. The assessment includes for the two scenarios aforementioned in **Section 3.5** of this TS.



- 5.2.8 It is noted that the construction phase peak period will not include AIL vehicles. It is acknowledged that these vehicles will have to access the site to transport the six proposed transformers. As the AILs are to deliver the six transformers, these vehicles will generate negligible trips and have not been assessed in further detail. The routing of the AILs on the local road network are to be included within the CMP post planning.

Decommissioning Phase

- 5.2.9 The proposed decommissioning traffic has been calculated and provided by the Applicant. The decommissioning phase is anticipated to commence in 2031 and last for a period of approximately 12-14 months, with the peak period occurring between May and August 2031.
- 5.2.10 The Applicant, using the anticipated number of vehicles for each decommissioning activity, calculated that a total of 187 vehicles is forecast over the 12-14 month period. To provide a robust forecast, the Applicant then applied a 25% margin. Including the 25% margin, the decommissioning phase is proposed to generate 234 trips, equating to a total of 468 two-way trips. This equates to an average of 39 daily two-way trips over a 12-month period, or an average of 33 daily two-way trips over a 14-month period.
- 5.2.11 The Applicant also provided that during the peak decommissioning months (May to August 2031), 60 two-way trips are anticipated per day.
- 5.2.12 The anticipated 'working hours' have not been provided at this stage. In addition, confirmation has not been provided if the decommissioning vehicles are able to operate during morning and evening peak hours, and therefore it cannot be determined if the HGV traffic generated by the construction period will have an impact on the local road networking during the morning and evening peak periods. The construction operational periods and working hours will be detailed in a CMP post planning, once a contractor has been appointed.
- 5.2.13 Whilst the majority of vehicle types during the decommissioning phase are HGVs, AIL movements are anticipated for the removal of the main body of the substation. It is forecast that only two trips are to be required for AILs, as a result, AILs have not been assessed in further detail. The routing of the AILs on the local road network are to be included within the CMP post planning.

5.3 Baseline Traffic Data Collection

- 5.3.1 Baseline traffic flows are required to understand the existing flows on the local road network and along the routes towards the strategic road network.
- 5.3.2 Baseline traffic flows were obtained through Automatic Traffic Count (ATC) surveys. The ATC surveys were undertaken over a 7-day period (24-hours each day) between Monday 2nd December and Sunday 8th December 2024, which is outside of School holiday periods.
- 5.3.3 Seven locations on the surrounding local road network were chosen for the survey, as part of potential routes towards the strategic road network including the M90, and routes towards the A92 in the south. The seven locations included:
- Location 1 - B9097 East of Brackley Lodge;
 - Location 2 - B920 North of Robert Braird and Sons Farm;
 - Location 3 - B9097 south of B920;
 - Location 4 - B920 Ballingry;
 - Location 5 - B921 adjacent Tillcoultry Quarry;
 - Location 6 - B981 Jamphlars Road adjacent Recycling Centre; and



- Location 7 - B9149 between Muir Road and B981 Roundabouts.

5.3.4 The survey results have been included as **Appendix D**.

5.3.5 The survey results provide baseline 24-hour Annual Average Daily Traffic (AADT) flows for total vehicles (including HGVs). The survey results also provide baseline 24-hour AADT flows for HGVs only. **Table 5-1** summarises the baseline traffic flows for all surveyed locations.

Table 5-1: 2024 Baseline Flows

Survey Location	Vehicle Type	2024 Baseline Flows (Two-Way) (24-Hour AADT)
Location 1 B9097 east of East Brackley Lodge (west RSPB Scotland Loch Leven)	All Vehicles	5372
	Heavy Goods Vehicles	838
	Heavy Goods Vehicles (%)	16%
Location 2 B920 north of Robert Baird & Sons Farm	All Vehicles	3800
	Heavy Goods Vehicles	631
	Heavy Goods Vehicles (%)	17%
Location 3 B9097 south of B920 ghost island junction	All Vehicles	2555
	Heavy Goods Vehicles	461
	Heavy Goods Vehicles (%)	18%
Location 4 B920 north of Ballingry Crescent, Ballingry	All Vehicles	4689
	Heavy Goods Vehicles	566
	Heavy Goods Vehicles (%)	12%
Location 5 B921 adjacent Tillicoultry Quarries	All Vehicles	4030
	Heavy Goods Vehicles	510
	Heavy Goods Vehicles (%)	13%
Location 6 B981 Jamphlars Road adjacent Bowhill Recycling Facility	All Vehicles	4446
	Heavy Goods Vehicles	545
	Heavy Goods Vehicles (%)	12%
Location 7 B9149 between Muir Road & B981 Roundabouts	All Vehicles	9406
	Heavy Goods Vehicles	1182
	Heavy Goods Vehicles (%)	13%

5.4 Future 2027 Baseline Scenario

5.4.1 As aforementioned, the peak construction period has been identified to occur during March – June 2027. The 2024 baseline traffic flows have been factored to generate the future 2027 baseline flows in accordance with the construction peak period of 2027.

5.4.2 Scotland's National Road Traffic Forecast (NRTF) calculator tool has been interrogated to derive a low growth factor (1.01).

5.4.3 The low growth factor was applied to the 2024 baseline flows. The 2027 future baseline traffic flows have been summarised in **Table 5-2**.



Table 5-2: 2027 Future Baseline Flows

Survey Location	Vehicle Type	2027 Future Baseline Flows (Two-Way) (24 hour 7-day AADT Flows)
Location 1 B9097 east of East Brackley Lodge (west RSPB Scotland Loch Leven)	All Vehicles	5426
	Heavy Goods Vehicles	846
	Heavy Goods Vehicles (%)	16%
Location 2 B920 north of Robert Baird & Sons Farm	All Vehicles	3838
	Heavy Goods Vehicles	637
	Heavy Goods Vehicles (%)	17%
Location 3 B9097 south of B920 ghost island junction	All Vehicles	2581
	Heavy Goods Vehicles	466
	Heavy Goods Vehicles (%)	18%
Location 4 B920 north of Ballingry Crescent, Ballingry	All Vehicles	4736
	Heavy Goods Vehicles	572
	Heavy Goods Vehicles (%)	12%
Location 5 B921 adjacent Tillicoultry Quarries	All Vehicles	4070
	Heavy Goods Vehicles	515
	Heavy Goods Vehicles (%)	13%
Location 6 B981 Jamphlars Road adjacent Bowhill Recycling Facility	All Vehicles	4490
	Heavy Goods Vehicles	550
	Heavy Goods Vehicles (%)	12%
Location 7 B9149 between Muir Road & B981 Roundabouts	All Vehicles	9500
	Heavy Goods Vehicles	1194
	Heavy Goods Vehicles (%)	13%

5.5 Future Baseline (2027) & Construction Traffic

5.5.1 As calculated in **Section 5.2**, it is clear that the construction phase peak period is forecast to generate a higher quantity of vehicle trips when compared to the decommissioning phase peak period. As a result, the following assessment will review only the construction phase trips on the local road network as the worst-case scenario.

5.5.2 In order to establish the impact of the Proposed Development construction peak period traffic on the local road network, the two routing scenarios have been assessed and have been summarised below once more for reference:

- Scenario 1: 100% of HGV movements route west to/from Junction 5 of the M90; and
- Scenario 2: 50% of HGV movements route west towards Junction 5 of the M90 and 50% of HGV movements route east along the B9097 and then south towards the A92.

Scenario 1



- 5.5.3 Scenario 1 anticipates that construction HGV routing is to travel towards the M90 during the construction peak period, and therefore does not include for Location 4, 5, 6 and 7. As aforementioned, the anticipated 78 two-way HGV trips generated during the construction phase peak period have been added to the 2027 future baseline flows. **Table 5-3** demonstrates the percentage increase of vehicles (including all vehicles, and HGVs only) at Location 1, 2 and 3.

Table 5-3: Percentage Increase of 7-day AADT Traffic Flows (Two-Way) – Scenario 1

Survey Location	Vehicle Type	24 hour 7-day AADT Flows		
		2027 Future Baseline Flows (Two-Way)	Assessment Flows (Proposed Construction Flows and 2027 Base Flows) (Two-Way)	Percentage Increase
Location 1 B9097 east of East Brackley Lodge (west RSPB Scotland Loch Leven)	All Vehicles	5426	5504	1.44%
	Heavy Goods Vehicles	846	924	9.22%
	Heavy Goods Vehicles (%)	16%	17%	-
Location 2 B920 north of Robert Baird & Sons Farm	All Vehicles	3838	3916	2.03%
	Heavy Goods Vehicles	637	715	12.24%
	Heavy Goods Vehicles (%)	17%	18%	-
Location 3 B9097 south of B920 ghost island junction	All Vehicles	2581	2659	3.02%
	Heavy Goods Vehicles	466	544	16.75%
	Heavy Goods Vehicles (%)	18%	20%	-

- 5.5.4 **Table 5-3** demonstrates that the construction phase peak period following the routing to the M90 will see a small percentage increase of vehicles on the local road network during a typical 24-hour period. Therefore, it can be concluded that the Proposed Development will have a minimal traffic impact on the local road network if Scenario 1 routing is implemented.

Scenario 2

- 5.5.5 Scenario 2 anticipates that 50% of HGVs (39) are to travel west towards Junction 5 of the M90 and 50% of HGVs (39) are to travel east to get to the A92 adjacent Lochgelly. **Table 5-4** demonstrates the percentage increase of vehicles (including all vehicles, and HGVs only) across Location 1 to Location 7.



TKUP – Westfield Substation Extension

Table 5-4: Percentage Increase of 7-day AADT Traffic Flows (Two-Way) – Scenario 2

Survey Location	Vehicle Type	24 hour 7-day AADT Flows		
		2027 Future Baseline Flows (Two-Way)	Assessment Flows (Proposed Construction Flows and 2027 Base Flows) (Two-Way)	Percentage Increase
Location 1 B9097 east of East Brackley Lodge (west RSPB Scotland Loch Leven)	All Vehicles	5426	5465	0.72%
	Heavy Goods Vehicles	846	885	4.61%
	Heavy Goods Vehicles (%)	16%	16%	-
Location 2 B920 north of Robert Baird & Sons Farm	All Vehicles	3838	3877	1.02%
	Heavy Goods Vehicles	637	676	6.12%
	Heavy Goods Vehicles (%)	17%	17%	-
Location 3 B9097 south of B920 ghost island junction	All Vehicles	2581	2620	1.51%
	Heavy Goods Vehicles	466	505	8.38%
	Heavy Goods Vehicles (%)	18%	19%	-
Location 4 B920 north of Ballingry Crescent, Ballingry	All Vehicles	4736	4775	0.82%
	Heavy Goods Vehicles	572	611	6.82%
	Heavy Goods Vehicles (%)	12%	13%	-
Location 5 B921 adjacent Tillicoultry Quarries	All Vehicles	4070	4109	0.96%
	Heavy Goods Vehicles	515	554	7.57%
	Heavy Goods Vehicles (%)	13%	13%	-
Location 6 B981 Jamphlars Road adjacent Bowhill Recycling Facility	All Vehicles	4490	4529	0.87%
	Heavy Goods Vehicles	550	589	7.09%
	Heavy Goods Vehicles (%)	12%	13%	-
Location 7 B9149 between Muir Road & B981 Roundabouts	All Vehicles	9500	9539	0.41%
	Heavy Goods Vehicles	1194	1233	3.27%
	Heavy Goods Vehicles (%)	13%	13%	-



- 5.5.6 **Table 5-4** demonstrates that the construction phase peak period with 50% of HGVs routing west towards the M90 and 50% routing east then south towards the A92 will see a small percentage increase of vehicles on the local road network during a typical 24-hour period.
- 5.5.7 Therefore, it can be concluded that the Proposed Development will have a minimal traffic impact on the local road network if Scenario 2 routing is implemented.



6 Summary and Conclusion

6.1 Summary

- 6.1.1 Stantec UK Limited has been appointed by SP Transmission plc to prepare a Transport Statement in support of a Planning Permission in Principle application for the erection of a 400kv electricity substation, decommissioning of existing 275kv equipment and associated infrastructure including plant, machinery, accesses, drainage, underground cables and landscaping at Westfield Substation, Fife.
- 6.1.2 The site is located adjacent to the B9097, situated approximately 1.5km east of Ballingry town centre. The site is bound by the B9097 to the north, an unnamed road to the east, agricultural land to the south, and the existing Westfield Substation to the west. The existing site is occupied by agricultural land.
- 6.1.3 Vehicle access to the existing Westfield Substation is currently taken from an unnamed road via a priority junction with the B9097. Given the nature of the Proposed Development, pedestrian and cycle access to the site will be negligible.
- 6.1.4 The Personal Injury Collision data was reviewed for the B9097 to the east and west of the existing Substation access between the B920 and the B921. Only one collision has occurred within a five-year period along this carriageway and as this collision involved only one vehicle it can be concluded that there are no inherent road safety issues with the existing road layout in the vicinity of the site.
- 6.1.5 Vehicular access to the site will be retained from the existing substation access, although reconfigured to also provide access to the site. The existing substation access is in the form of a priority junction with the B9097 and is to be widened. At this stage, indicative road markings have been proposed, and an internal access road is proposed to be connected to the existing access and has an east to west alignment. Road markings and access design are to be confirmed during the detailed design stage.
- 6.1.6 Visibility splays in accordance with the Design Manual for Roads and Bridges are achievable with removal of vegetation proposed as required within the visibility splay. Additionally, swept path analysis demonstrates that the existing access to be widened is suitable for heavy goods vehicles and abnormal indivisible load vehicle access.
- 6.1.7 A trip generation assessment using first principles approach has been undertaken. The construction phase peak period proposes to generate 78 two-way HGV trips per day. The decommissioning phase proposes a total of 468 two-way trips over the entire 12 to 14-month period, this equates to 39 daily two-way trips over a 12-month period, or 33 daily two-way trips over a 14-month period. The Applicant also provided that during the peak decommissioning months (May to August 2031), 60 two-way trips are anticipated per day. Construction phase peak period trip generation was assessed as this is the most robust and is anticipated to produce the highest level of trips.
- 6.1.8 The traffic impact associated with the Proposed Development will therefore be low and no junction modelling or mitigation is required.
- 6.1.9 A traffic percentage impact assessment has been undertaken to understand the percentage increase of HGVs over a 24-hour period (during the construction phase peak period as the worst-case scenario) following two routing scenarios. Scenario 1 included routing all HGVs west to/from the M90. Scenario 2 included 50% routing west towards the M90 and 50% east towards the A92. The assessment demonstrates that there will be a low increase of HGVs on the local road network during the peak construction period across both scenarios.
- 6.1.10 It is noted that a Construction Management Plan should be provided post planning to include further details of any construction and decommissioning impact.



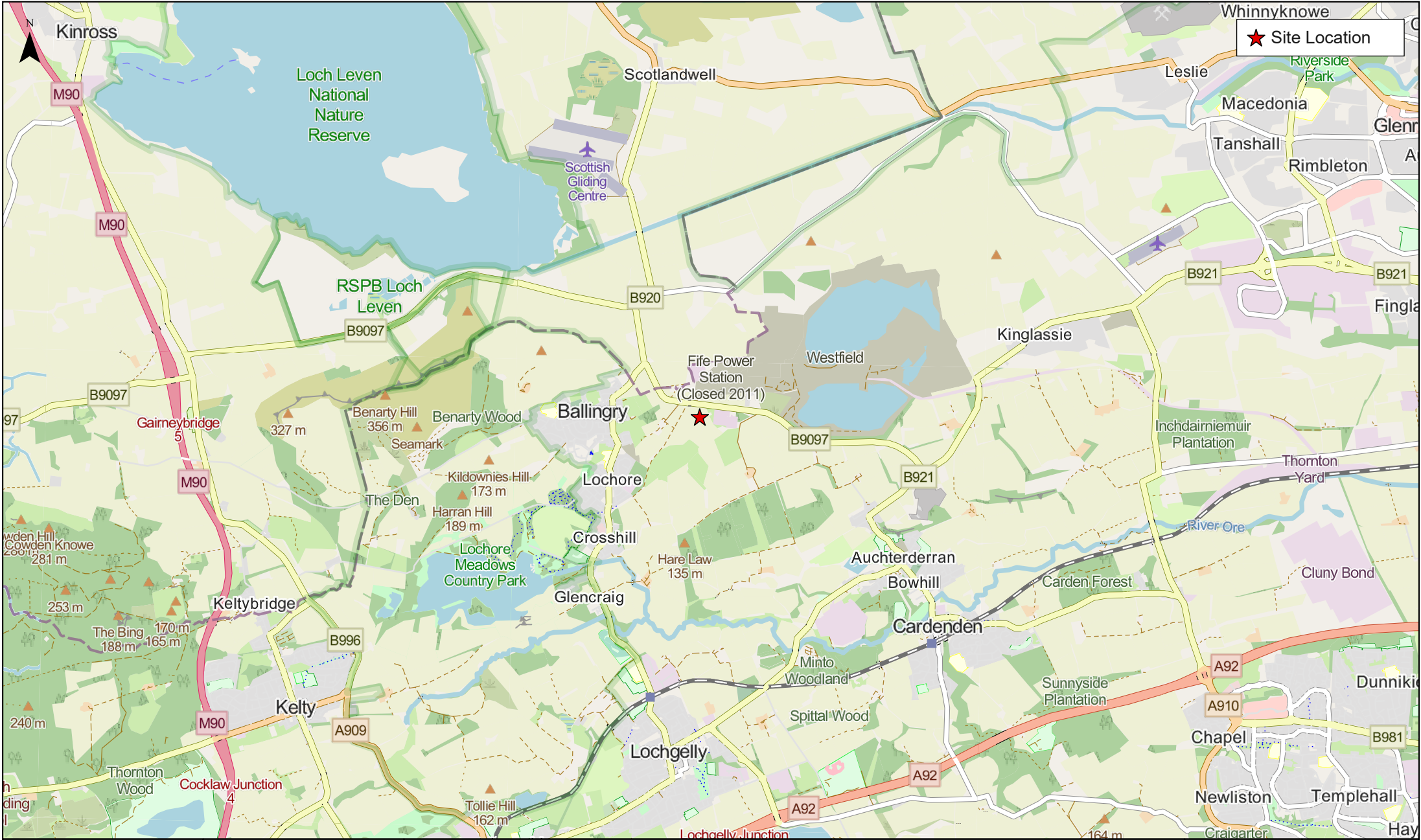
6.2 Conclusion

- 6.2.1 In accordance with NPF4, it has been demonstrated that the Proposed Development will not produce any material traffic impact on the local road network.
- 6.2.2 In conclusion, the planning application should therefore be considered acceptable in transportation and road terms.

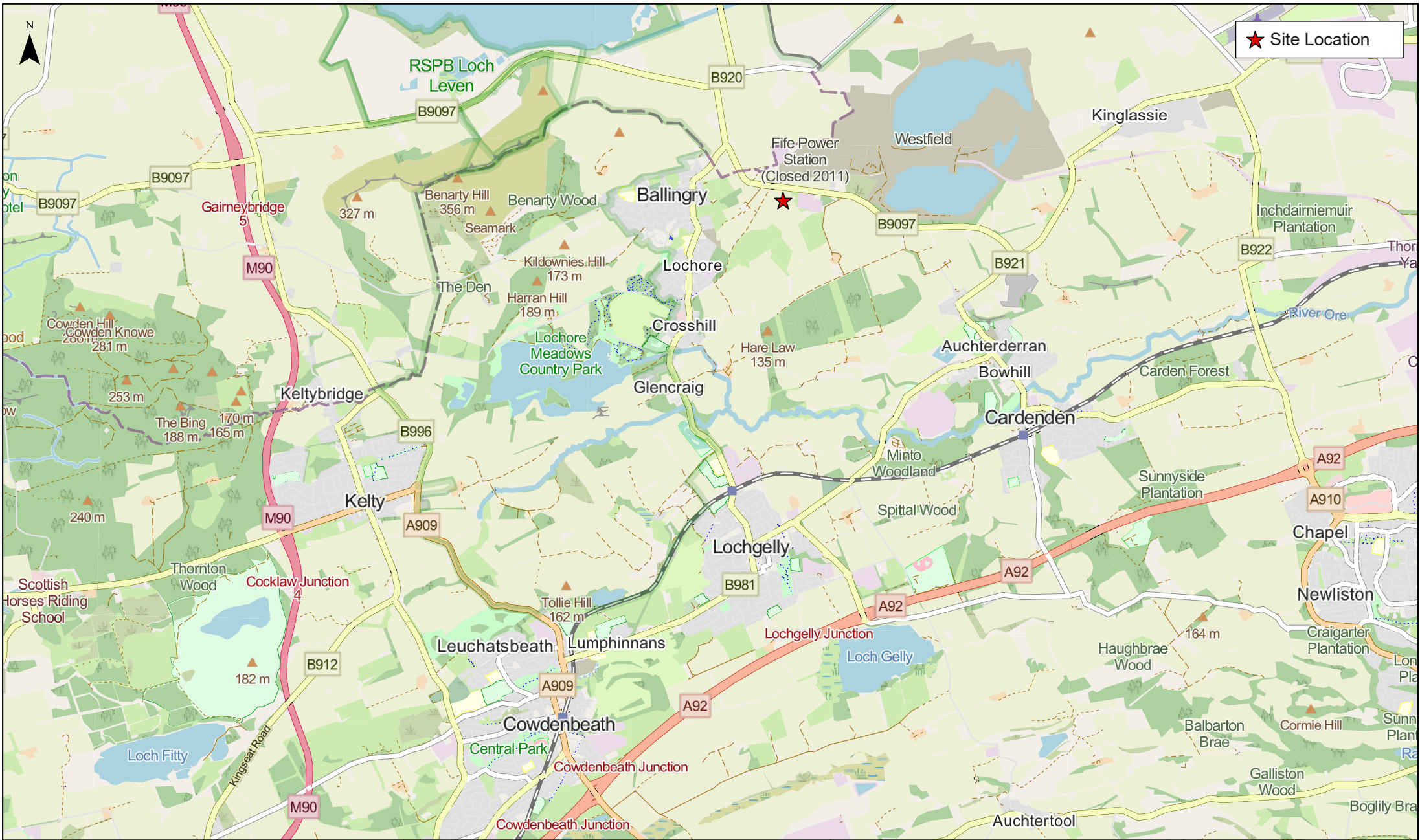


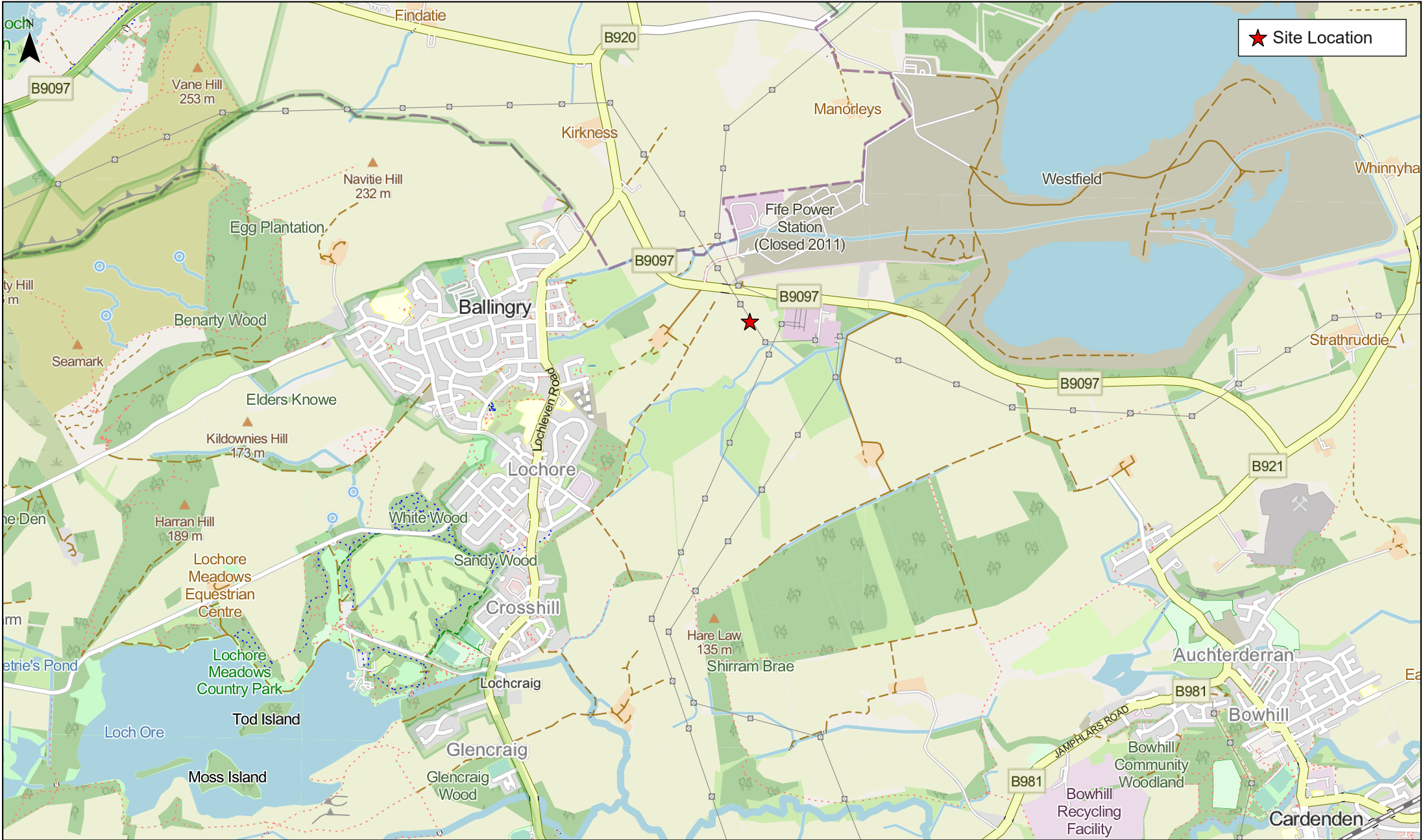
Figures





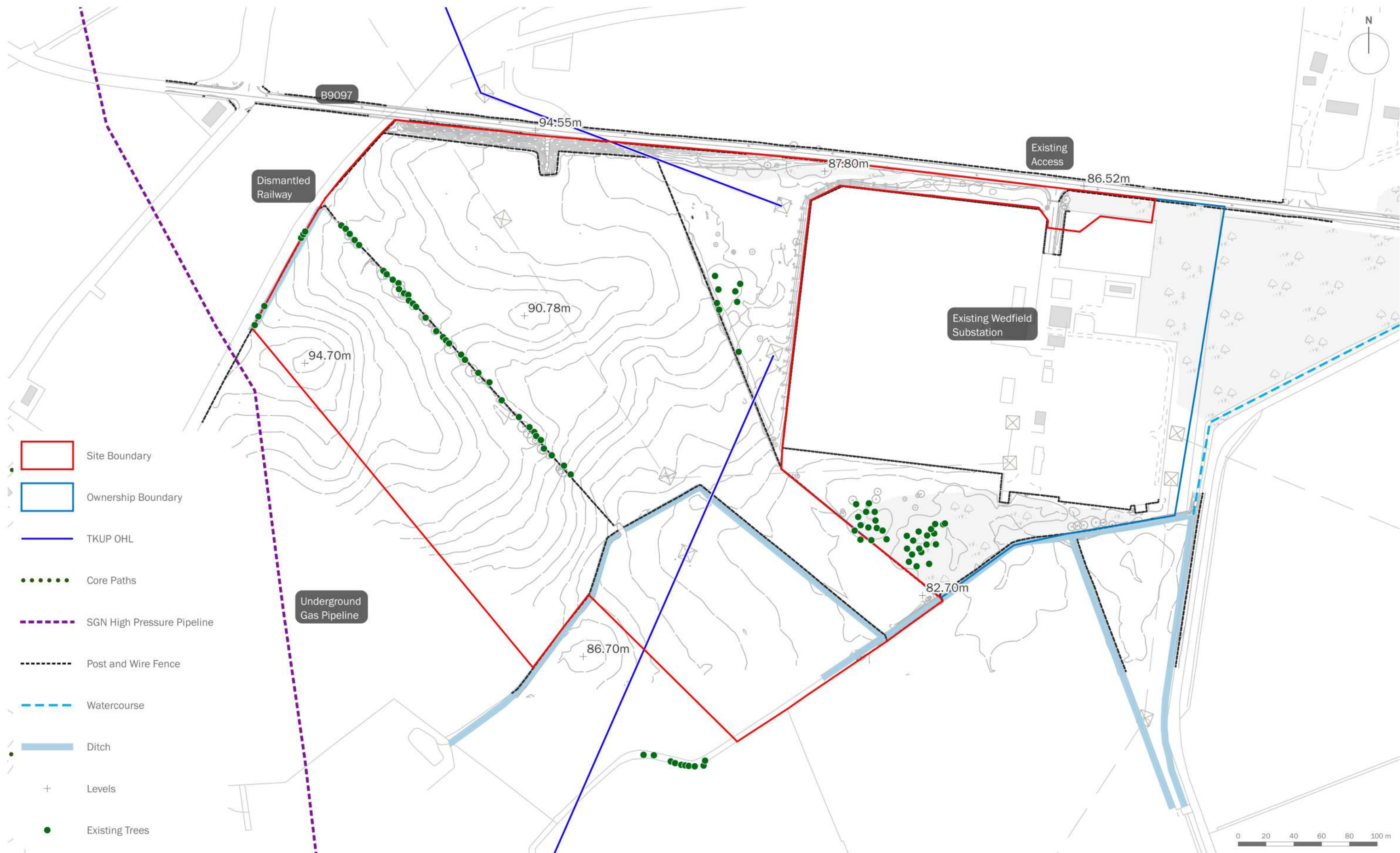
	Client 	WESTFIELD SUBSTATION, FIFE Figure 1: Site Location Plan	OpenStreetMap: Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri 00.5123 Km	<table><tr><td>1:57,000 @ A4</td><td>Date: 06/05/2025</td></tr><tr><td>Drawn: IG</td><td>Checked: ML</td></tr><tr><td colspan="2">Figure 1</td></tr></table>	1:57,000 @ A4	Date: 06/05/2025	Drawn: IG	Checked: ML	Figure 1	
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Appendix A Existing Site Plan





purpose of issue **PLANNING**

a	Updated site boundary	16/06/2025	DJo
-	Original	29/01/2025	DJo
rev	description	date	by

date
drawing number
scale
drawn by
checked
QA

29 JANUARY 2025
edp8754_d017a
1:2,500 @ A3
DJo
LMa
RBa

client
SP Energy Networks

project title
Tealing to Kincardine Upgrade Project – Westfield Substation Extension

drawing title
Existing Site Plan

Appendix B Proposed Indicative Site Plan



