Pell Frischmann

Vale of Leven Wind Farm

Transport Assessment

October 2023

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann Consultants Ltd (PF) have been commissioned by Coriolis Energy Ltd. (Coriolis) (the Applicant), to undertake a Transport Assessment (TA) for the proposed Vale of Leven Wind Farm (the Proposed Development), located approximately 2.5 kilometres (km) to the west of the nearest settlement Bonhill, in the West Dunbartonshire Council administrative area.

The report identifies the key transport and access issues associated with the Proposed Development, including the route for abnormal loads. The TA identifies where the Proposed Development may require mitigation works to accommodate the predicted traffic; however, the detailed design of these remedial works is beyond the agreed scope of this report. Any mitigations works will be agreed with West Dunbartonshire Council and Transport Scotland prior to construction and deliveries taking place.

1.2 Report Structure

Following this introduction, the TA report is structured as follows:

- section two describes the proposed development;
- section three reviews the relevant transport and planning policies;
- section four sets out the methodology used within this assessment;
- section five describes the baseline transport conditions;
- section six describes the trip generation and distribution of traffic in the Study Area;
- section seven summarises the traffic impact assessment;
- section eight considers mitigation proposals for development related traffic within the study network; and
- section nine summarises the findings of the TA and outlines the key conclusions.

2 Proposed Development

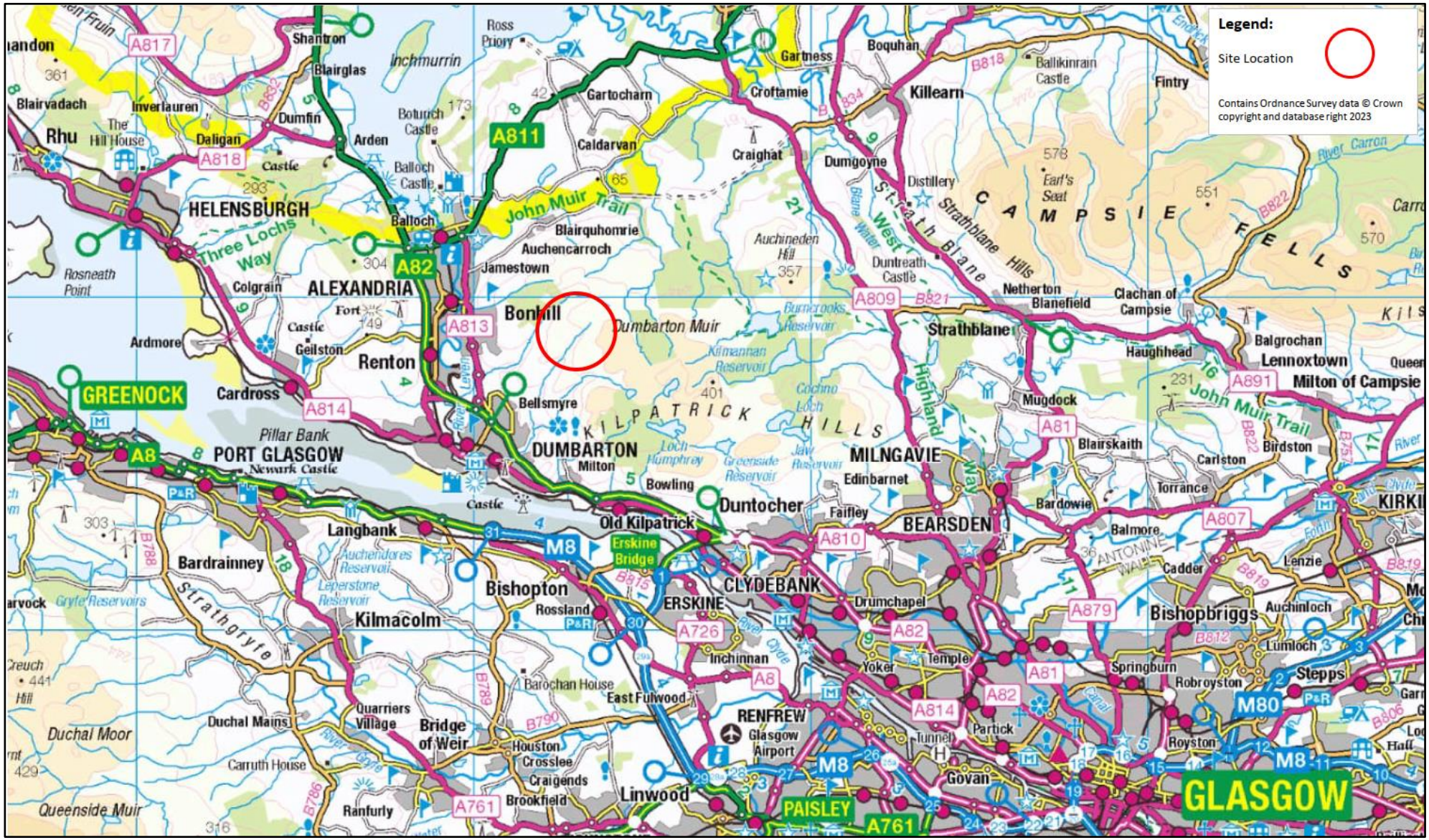
2.1 Site Location

The Site is located within the Kilpatrick Hills, West Dunbartonshire. The nearest settlement to the Site is Bonhill, which lies just over 2 km to the west of the nearest proposed turbine, and approximately 600m to the northwest of the Site boundary and proposed access track. The larger settlements of Alexandria and Dumbarton are approximately 4 km to the west and south-west of the Site respectively, as shown on **Figure 1.1** of the EIA.

The Loch Lomond and Trossachs National Park (LLTNP) and the Loch Lomond National Scenic Area (NSA), lie a minimum of 1.7km and approximately 3.5 km respectively to the north of the northern site boundary.

The location of the site is shown in Figure 1.

Figure 1 Site Location



2.2 Proposed Development

The Proposed Development will comprise the following:

- up to ten wind turbines of approximately 7 megawatts (MW) each, with a maximum blade tip height of 250 m;
- hardstanding areas at the base of each turbine, with a permanent area of approximately 7,800 m^2;
- site entrance and access track up to 9.2 km in length from the south-west, via a new road through Murroch Farm, accessed from a new junction on the A813 Stirling Road, roughly opposite the Aggreko Lomondgate facility in Dumbarton;
- on-site sub-station/control building with parking and welfare facilities;
- associated crane hardstanding at each turbine location;
- a network of on-site access tracks and associated watercourse crossings;
- transformers and underground cables to connect the turbines to the on-site substation;
- internal and private access road network;
- a permanent anemometry mast for wind monitoring, including associated foundations and hardstanding;
- telecommunications equipment;
- 3 temporary construction compounds and laydown area;
- 3 borrow pit search areas, to provide suitable rock for access tracks, turbine bases and hardstandings; and
- energy storage equipment with a capacity up to 20 MW.

A complete description of the Proposed Development for the purposes of the Environmental Impact Assessment (EIA) regulations is provided in EIA Report Volume 1: Chapter 2.

2.3 Candidate Turbines

The Applicant have indicated that they wish to consider the worst case components from the Siemens SG170 turbine for the purposes of this assessment. The tower sizes for UK installations for turbines at tip heights over 200 m are site specific and SGRE recommend a maximum tower section of 4.8 m in width by 30 m long is used. The details of the worst case components are detailed in Table 1.

Table 1 Turbine Size Summary

Component	Length (m)	Width (m)	Height/Min Diameter (m)	Weight (t)
Blade	83.880	4.350	3.675	29.600
Tower	30.000	4.800	4.800	81.000

A detailed Route Survey Report (RSR) outlining the turbine components in detail and the proposed access route is attached in Appendix A.

The selection of the final turbine model and specification will subject to a commercial procurement process following consent of the application. The assumed dimensions may therefore vary slightly from those assumed as part of this assessment.

The most appropriate Port of Entry (POE) for the site is Clydebank Docks in Glasgow, which is located on the north of the River Clyde. The port is the closest suitable port to site and as such is in line with the Government's "Water Preferred" policy towards abnormal indivisible load (AIL) movements.

It is proposed that Clydebank Dock is used due to known weight restrictions on the Erskine Bridge and the inability to utilise the blade lifting trailer for movements out of KGV Dock as it is not able to transport the loads under the M8 motorway.

Detailed discussions need to be held with the owners of Clydebank Docks, Peel Port to ensure they allow for the proposed loads to be landed and that adequate facilities are available for its use.

Due to a number of constraints from the port to the site, it is considered that it is necessary to transport the blades using a blade lifting trailer. This trailer has the ability to lift blades up to a maximum angle of 60 degrees, lifting blades over potential constraints and shortening the length plan view.

The base and mid towers would be carried on a 4+7 clamp trailer. The hub, nacelle housing, and top towers would be carried on a six-axle step frame trailer.

Examples of the vehicles and trailers that are likely to transport the proposed loads are shown in Figure 2, 3 and 4.

Figure 2 Blade Lifter Trailer

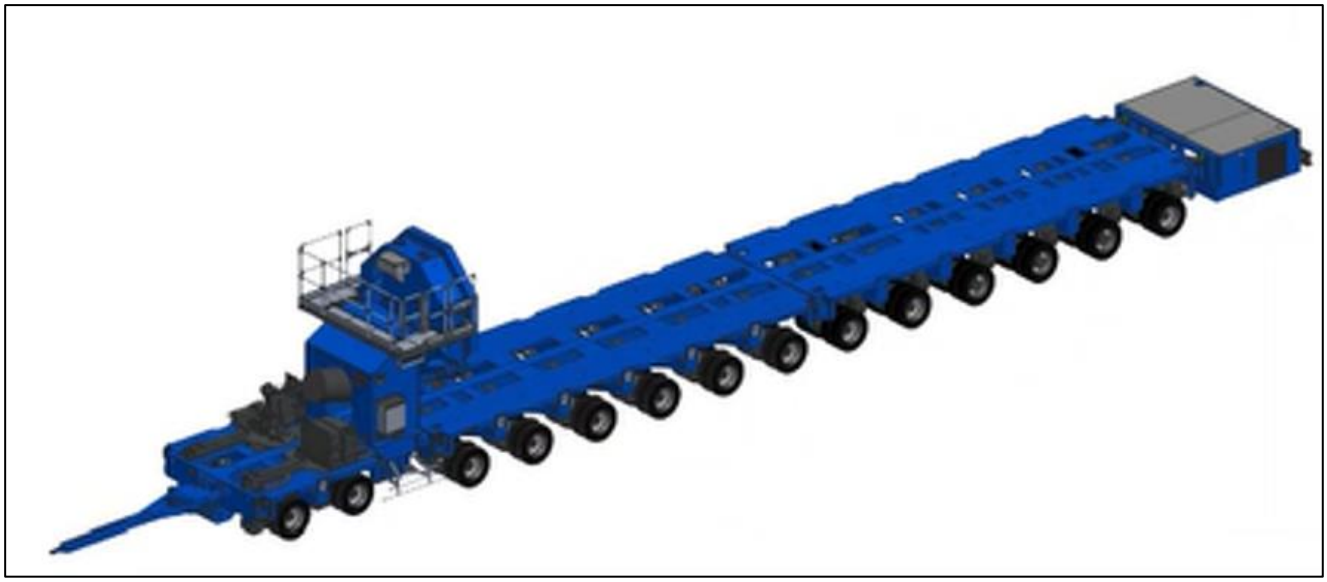


Figure 3 Blade Lifter Trailer

Figure 4 Tower Trailer

3 Policy Context

3.1 Introduction

An overview of relevant transport planning policies has been undertaken and is summarised below for national and local government policies.

3.2 National Policy and Guidance

3.2.1 National Planning Framework (NPF4)

The National Planning Framework (NPF) is a long-term plan for Scotland that sets out where development and infrastructure is needed in the country. NPF4 sets out the Government's plan looking forward to 2045 that will guide spatial development, set out national planning policies, designate national developments and highlight regional spatial priorities. It is part of the development plan, and so influences planning decisions across Scotland.

NPF4 puts the climate and nature crises at the heart of the Scottish planning system and was adopted in February 2023.

3.2.2 Planning Advice Note (PAN) 75

Planning Advice Note (PAN) 75: Planning for Transport provides advice on the requirements for Transport Assessments. The document notes that:

"… transport assessment to be produced for significant travel generating developments. Transport Assessment is a tool that enables delivery of policy aiming to integrate transport and land use planning."

"All planning applications that involve the generation of person trips should provide information which covers the transport implications of the development. The level of detail will be proportionate to the complexity and scale of the impact of the proposal...For smaller developments the information on transport implications will enable local authorities to monitor potential cumulative impact and for larger developments it will form part of a scoping exercise for a full transport assessment. Development applications will therefore be assessed by relevant parties at levels of detail corresponding to their potential impact."

3.2.3 Onshore Wind Turbines; Online Renewables Planning Advice (May 2014)

The most recent Scottish Government advice note regarding onshore wind turbines was published in 2014. The advice note identifies the typical planning considerations in determining applications for onshore wind turbines including landscape impact, impacts on wildlife and ecology, shadow flicker, noise, ice throw, aviation, road traffic impacts, cumulative impacts and decommissioning.

In terms of road traffic impacts, the guidance notes that in siting wind turbines close to major roads, pre-application discussions are advisable. This is important for the movement of abnormal indivisible loads during the construction period, ongoing planned maintenance and for the decommissioning phase.

3.2.4 Transport Assessment Guidance (2012)

Transport Scotland's (TS) Transport Assessment Guidance was published in 2012. It aims to assist in the preparation of Transport Assessments (TA) for development proposals in Scotland such that the likely transport impacts can be identified and dealt with as early as possible in the planning process. The document sets out requirements according to the scale of development being proposed.

The document notes that a TA will be required where a development is likely to have significant transport impacts but that the specific scope and contents of a TA will vary for developments, depending on location, scale and type of development.

3.3 Local Policy and Guidance

3.3.1 West Dunbartonshire Council Local Plan (2010)

The West Dunbartonshire Council Local Plan was adopted in March 2010 and sets out the Council's aspirations on how it wishes the area to be promoted and protected in terms of development and use of land and property until the year 2015.

The vision for the Local Plan is:

"To ensure a sustainable approach to development throughout West Dunbartonshire through a land use framework that brings about positive social and economic development for the benefit of all, whilst maintaining and enhancing environmental quality."

The Local Plan does not contain any specific transport policy guidance for the Proposed Development, as a wind farm development. Policy T4 on Accessibility to New Developments, however, makes reference to matters applicable to the Proposed Development, namely:

"…New roads, footpaths and cycleways built by developers will normally require to conform to the design and construction standards required by the Council."

3.3.2 Proposed West Dunbartonshire Local Development Plan (LDP) 2 (2020)

On 15 March 2023, the West Dunbartonshire Council Planning Committee took a decision that the Council would not adopt the LDP2. The Proposed LDP2, incorporating the recommended modifications of the Examination Report received on 22 April 2020, which were accepted by the Planning Committee of 19 August 2020, remains the Council's most up to date spatial strategy and is therefore afforded significant weight in the assessment and determination of planning applications.

The LDP2 does not contain any specific transport policy guidance for the Proposed Development, as a wind farm development in relation to traffic and transport. Policy CON1 in relation to Transportation Requirements for New Developments, however, makes reference to matters applicable to the Proposed Development, namely:

"The Council requires development proposals to accord with Designing Streets, the National Roads Development Guidelines, and be in alignment with the provisions of the Regional and Local Transport Strategies."

3.3.3 West Dunbartonshire Council Renewable Energy Local Development Plan (Proposed Plan) Planning Guidance (2016)

In terms of planning for Wind Energy, the planning guidance notes that with regards to impacts on the adjacent roads and road traffic:

"All proposals are required to fully consider the impact of the development on West Dunbartonshire's road network, with consideration given to:

- *The structural and physical ability of roads and bridges to accommodate the additional traffic generated, including abnormal loads;*
- *The need to minimise disturbance to local communities and businesses.*

Early contact should be made with the Councils Roads Department to agree the scope and extent of a Transport Assessment and Construction Traffic Management Plan."

3.4 Policy and Guidance Summary

The Proposed Development can align with the stated policy objectives and the design of the Proposed Development and proposed mitigation measures will ensure compliance with national and local objectives.

4 Study Methodology

4.1 Introduction

There are three phases of the Proposed Development, which have been considered in this assessment and are as follows:

- the construction phase;
- the operational phase; and
- the decommissioning phase.

4.2 Project Phases – Transport Overview

Of the three phases, the construction phase is considered to have the greatest impact in terms of transport and potential impacts on the road network and sensitive receptors. Construction plant, bulk materials and wind turbine components will be transported to site, potentially resulting in a significant increase in traffic on the study network.

The operational phase is restricted to occasional maintenance operations which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network.

The decommissioning phase involves fewer trips on the road network than the construction phase, as minor elements of infrastructure are likely to be left in place, adding to local infrastructure that can potentially be used for further agricultural or leisure uses in the future.

4.3 Scoping Discussions

The Applicant submitted a request for scoping opinion to the Scottish Ministers in respect of the EIA which included a section considering traffic and transport. A full review of that scoping opinion and other correspondence relating to the scope of the study including pre-application advice is provided in the site Traffic and Transport Chapter of the EIA Report (Volume 1: Chapter 9).

5 Baseline Conditions

5.1 Access Arrangement

The Proposed Development will be accessed via a new simple priority junction on the A813 Stirling Road, located immediately to the south of the access junction to Murroch Farm. The access junction will provide access to the site for all abnormal loads associated with the turbine deliveries, as well as access for Heavy Goods Vehicles (HGVs) delivering construction materials and general site traffic.

The proposed access junction would be used for both the construction and operational phases of the Proposed Development and will require the relocation of the existing bus stop and lay-by at this location. It is proposed that the bus stop and lay-by be relocated to the south of its existing location, to the area between the access to the electricity distribution site and Brackenhurt Cottage. It would be proposed to discuss this further with West Dunbartonshire Council and bus operators post consent.

Construction traffic associated with the delivery of materials to the Proposed Development will approach the site predominantly from the south, via the A813 Stirling Road. Minimal levels of HGV construction traffic is proposed to access the site from the local road network to the north.

All AIL traffic access will access the Proposed Development via A813 Stirling Road from the POE at Clydebank Dock on the north of the River Clyde.

5.2 Study Determination

The Study Area has been based on those roads that are expected to experience increased traffic flows associated with the construction of the Proposed Development. The geographic scope was determined through a review of the other developments in the area, Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

It is estimated that the majority of construction personnel will access the site from the south. Personnel would likely travel to the site via the A82(T)/A898 from the Glasgow area, travelling through to the site access on the A813 Stirling Road. It is possible that some construction personnel may reside in local accommodation, for example in the Dumbarton or Alexandria areas during the working week, in which case the traffic effect on the wider road network would be reduced.

Wherever practical, construction materials will be sourced from south of the Proposed Development from local suppliers, thus minimising the number of HGVs passing through settlements to the north.

As detailed above, the likely POE used for the discharging of turbine components will be Clydebank Dock on the north of the River Clyde. AILs will travel through to the site via the Cart Street, Glasgow Road, B814 Duntocher Road, A82(T) and A813 Stirling Road. Full details of the AIL routes are provided later in the report and in the AIL Route Survey Report attached as Appendix A.

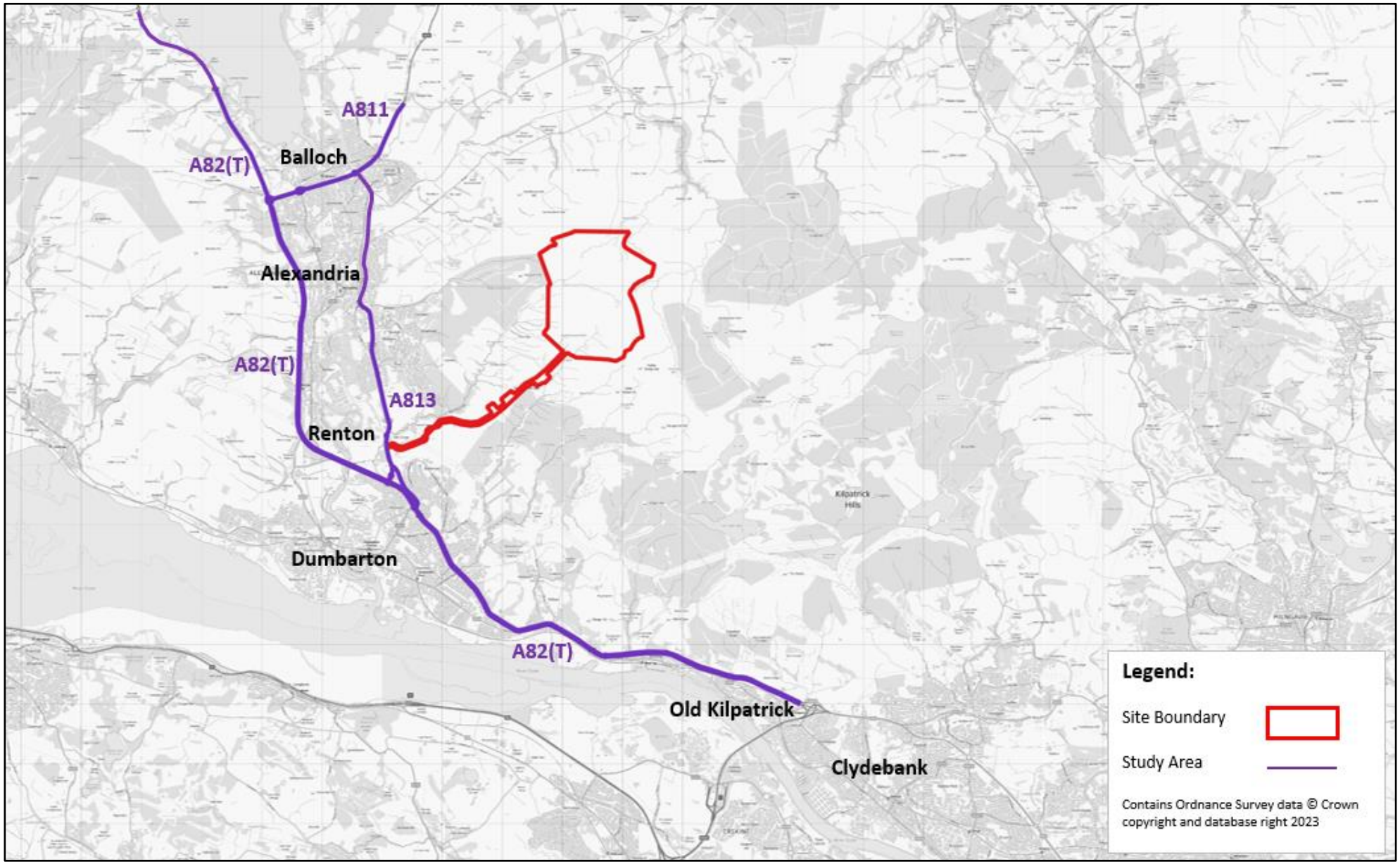
The Study Area for the assessment has therefore been assumed to be as follows:

- A82(T), between the A988/Erskine Bridge and the Lomondgate Roundabout;
- A82(T), between the Lomondgate Roundabout and the A818 Roundabout;
- A811, between the A82(T) junction and the western extents of Balloch; and
- A813 Stirling Road, between the A811 and the A82(T).

The above Study Area is illustrated in Figure 5.

Effects associated with construction traffic generated by the Proposed Development would be most pronounced in close proximity to the site access junction and on the final approaches to the site. As vehicles travel away from the Proposed Development, they would disperse across the wider road network, thus diluting any potential effects. It is therefore expected that the effects relating to construction traffic are unlikely to be significant beyond the Study Area identified above.

Figure 5 Transport Assessment Study Area



5.3 Pedestrian and Cyclist Networks

Within the vicinity of the Site access, there are footways located along the western side of the A813. The footways are complemented by lighting columns and dropped kerbs with tactile paving. A pedestrian refuge island is located on the A813 Stirling Road to facilitate safe crossing to the existing bus layby which is located at the proposed site access. A combination of paths and footways, as well as crossing facilities are provided along the A813, to the north, in the vicinity of settlements.

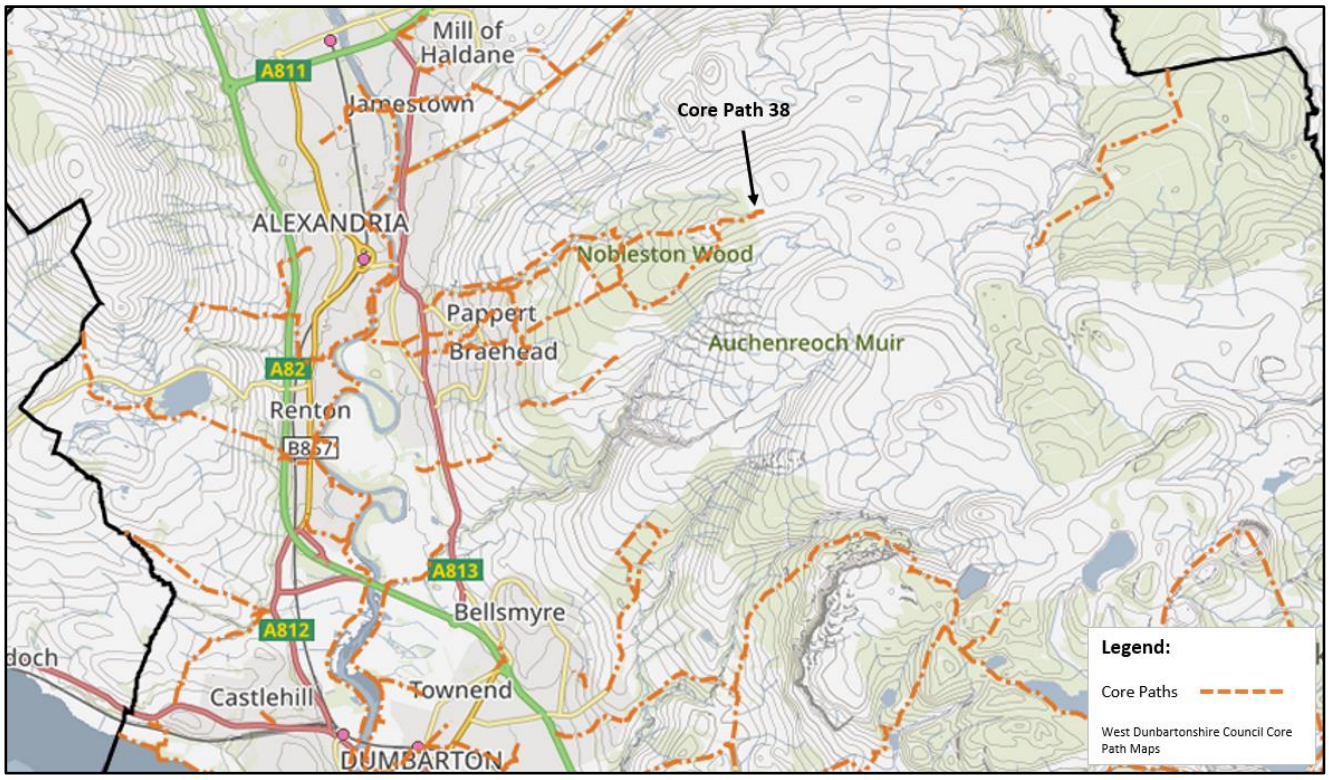
Along the A82(T), north of Stoneymollan Roundabout, there is footway along a section of the eastern side of the A82(T) which provides a connection to the bus stop located on the A82(T) to facilities surrounding Loch Lomond via Lower Stoneymollan Road.

For the majority of the A82(T) between Barloan Toll Roundabout and Dunglass Roundabout, there are footways on both sides of the road which are complemented by lighting columns and dropped kerbs (some including tactile paving). Along this section of carriageway, there are also dedicated crossing facilities by way of signalised crossings. Between Dunglass Roundabout and Mount Pleasant Drive footways are located on the southern side of the A82(T), and lighting columns are provided along this section of footway.

Between Stoneymollan Roundabout and A811/Luss Road/Old Luss Road Roundabout there are no footways along the A811, however there are pedestrian crossing facilities on the A811 (west) arm of the roundabout which comprises crossing signals and dropped kerbs with tactile paving. Between the A811/Luss Road/Old Luss Road Roundabout and the Drymen Road/A811 priority junction, there are footways located on both sides of the carriageway, as well as signalised crossing points with dropped kerbs and lighting columns. North of the Drymen Road/A811 priority junction, a footway is located to the east of the A811.

A review of West Dunbartonshire's Core Path network[1] indicates that a small section of Core Path 38 is located within the Site boundary. This location of Core Path 38 is shown in Figure 6.

Figure 6 Core Path Plan (West Dunbartonshire Council)



[1] West Dunbartonshire Council Core Path Plan: https://www.west-dunbarton.gov.uk/leisure-parks-events/countryside-facilities-and-wildlife/countryside-and-leisure/core-paths/core-paths-maps/

A review of Sustrans' National Cycle Route (NCR) map[2] does not show any national cycle routes in the immediate vicinity of the Proposed Development site, however, for approximately 100 m, the NCR 7 comprises an on-road route on the A811 at the northern section of the Study Area. The NCR 7 runs between Sunderland and Inverness and comprises a combination of traffic free and on-road routes.

There is a short section of shared footway / cycleway to the south linking the Aggreko Factory with the services area, with tactile paving and drop kerbs at crossing points.

5.4 Road Access

A813 Stirling Road

The A813 Stirling Road is a short A-road within Dunbartonshire, running parallel to the A82(T) through Alexandria. At its southern extents, the road used to commence at Barloan Toll Roundabout; however it now starts at the Lomondgate Roundabout with the A82(T) to the west. The road runs in a broadly north/south direction passing the Bellsmyre housing estate on the east and the Aggreko Factory to the west, in addition to other industrial type land uses within the Vale of Leven Industrial Estate. The road continued north towards Balloch, passing through Bonhill and Jamestown before ending at its roundabout with the A811. The road is a single carriageway road, with one lane operating in each direction and is approximately 6.0 km in length.

There is a 30 miles per hour (mph) in place at its southern extents, rising to 40 mph in the vicinity of the Proposed Development. This then reduces again to 30 mph from the southern extents of Bonhill through to Balloch and the roundabout between the A813 Stirling Road and the A811.

The road is considered to be in good condition and maintained by West Dunbartonshire Council.

A82(T)

The A82(T) is part of the Scottish trunk road network and is managed and maintained by Amey between Balloch and the Erskine Bridge, and by Bear Scotland for the remainder of its length on behalf of Transport Scotland. The A82(T) runs from Glasgow to Fort William and Inverness, passing along the shores of Loch Lomond and Loch Ness. The A82(T) is one of the principal north/south routes in Scotland providing a key link between the Central Belt and the Highlands.

The section of the A82(T) closest to the Proposed Development, which runs through Dumbarton to the south is dual carriageway with two lanes operating in each direction. The speed limit on the A82(T) varies, however on the section that passes through Dumbarton it is 40 mph. To the east and north of Dumbarton, the national speed limit is in place.

The road is considered to be in good condition and maintained to a high standard by Bear Scotland.

A811

The A811 is an A-class road running from Stirling in the east to Balloch in the west. At its eastern extents, the road meets the A905 to the west of Stirling Castle, while in the east it meets the A82(T) at the Stoneymollan Roundabout. The road is a single carriageway road, operating with one lane in each direction. The speed limit on the A811 varies, however to the west of Balloch to the north of the Proposed Development, the national speed limit is in place between Stoneymollan Roundabout and A811/Luss Road Roundabout, reducing to 40 mph as it passes through the centre of Balloch. To the east/north east of Balloch the speed limit increases to the national speed limit.

[2] https://www.sustrans.org.uk/national-cycle-network

The road is considered to be in good condition and maintained by West Dunbartonshire Council in the vicinity of the Proposed Development.

5.5 Existing Traffic Conditions

In order to assess the impact of construction traffic on the study area, Annual Average Daily Traffic (AADT) flows were obtained from the UK Department for Transport (DfT) traffic database. Available 2019 flow information was obtained for all locations, as these flows would be unaffected by Covid-related travel restrictions.

DfT traffic data allows the traffic flows to be split into vehicle classes. The data was summarised into Cars/Light Goods Vehicles (LGVs) and HGVs (all goods vehicles >3.5tonnes gross maximum weight).

Traffic data has been used for the following locations:

1. A82(T) Old Kilpatrick (Count site reference: 40766);
2. A82(T) east of Milton (Count site reference: 10764);
3. A82(T) Dumbarton (south) (Count site reference: 78551);
4. A82(T) Dumbarton (north) (Count site reference: 74285);
5. A813 Stirling Road (Count site reference: 1110);
6. A82(T) north of Balloch (Count site reference: 74335); and
7. A811 Balloch (Count site reference: 50954);

The above counts were all estimated counts, using previous years count information from the DfT database.

These sites were identified as being areas where sensitive receptors on the access routes would be located. A full receptor sensitivity and effect review is prepared in the Traffic and Transport Chapter of the EIA Report (Volume 1: Chapter 9).

Figure 7 shows the location of the DfT surveys, while Table 2 summarises the AADT traffic data collected and used in this assessment.

Figure 7 Traffic Count Locations

Table 2 24-hour Average Traffic Data (2019)

Survey Location	Cars/LGV	HGV	Total	% HGVs
A82(T) Old Kilpatrick	45,755	2,071	47,826	4.3%
A82(T) east of Milton	45,329	2,148	47,477	4.5%
A82(T) Dumbarton (south)	32,445	1,413	33,858	4.2%
A82(T) Dumbarton (north)	40,008	1,591	41,599	3.8%
A813 Stirling Road	11,205	485	11,690	4.1%
A82(T) north of Balloch	18,067	686	18,753	3.7%
A811 Balloch	12,164	488	12,652	3.9%

Please note that variances may occur due to rounding.

5.6 Accident Review

Personal Injury Accident (PIA) data for the five-year period covering 2017 to 2021 for the roads within the Study Area, was obtained from the online resource CrashMap[3] which uses data collected by Police Scotland about road traffic crashes occurring on Scottish roads, where someone is injured.

TA Guidance[4] requires an analysis of the PIA on the road network in the vicinity of any development to be undertaken for at least the most recent 3-year period, or preferably a 5-year period, particularly if the site has been identified as being within a high accident area.

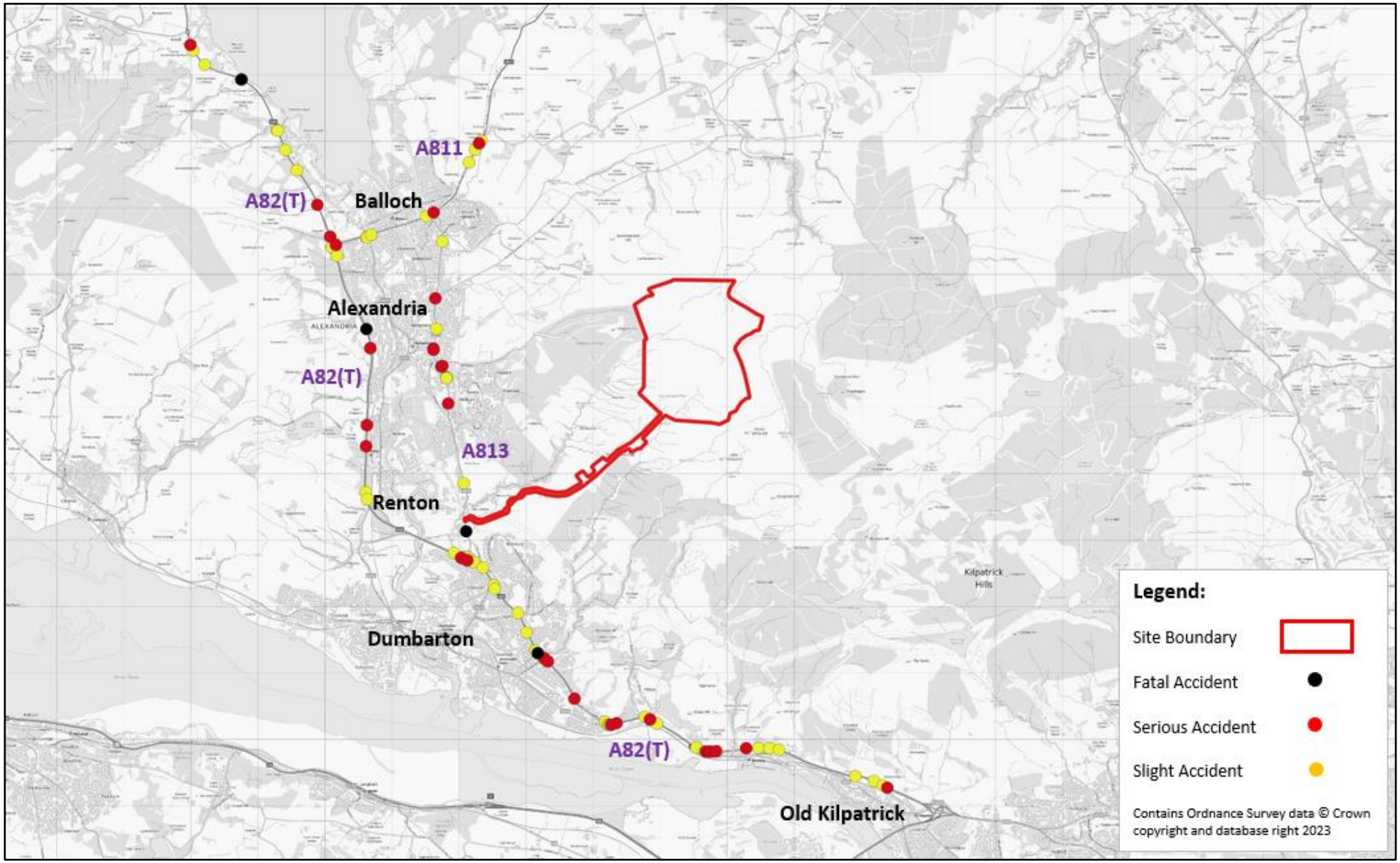
The statistics are categorised into three categories, namely “Slight”, “Serious” and “Fatal”, for those accidents that result in a death. The locations and severity of the recorded accidents within the Study Area are summarised in Table 3, while Figure 8 shows their locations.

Table 3 Personal Injury Accident Summary

Survey Location	Slight	Serious	Fatal	HGV Incidents
A813 Stirling Road	9	6	1	2
A82(T)	44	23	3	9
A811	8	2	0	3
Total	**61**	**31**	**4**	**14**
Percentage	**63.5%**	**32.3%**	**4.2%**	**14.6%**

[3] https://www.crashmap.co.uk/
[4] https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management__dpmtag_ref__17__-_transport_assessment_guidance_final_-_june_2012.pdf

Figure 8 PIA Locations



A summary analysis of the incidents indicates that:

5.6.1 PIAs recorded within the total Study Area

A total of 96 PIAs were recorded within the Study Area within the last available five-year period.

Of those 96 PIAs, 61 were classified as slight (63.5%) and 31 were classified as serious (32.3%). Four fatalities were recorded within the study period.

5.6.2 PIAs recorded along A813 Stirling Road, within the Study Area

A summary of the PIAs recorded along the A813 Stirling Road, within the Study Area is as follows:

- A total of 16 PIAs were recorded along the A813 Stirling Road, within the Study Area, of which nine were classified as slight and six were classified as serious. One fatality was recorded.
- The fatal incident occurred approximately 50 m to the south of the Substation access and was recorded as a single-vehicle collision involving a motorcycle.
- Two PIAs involved cyclists, of which one was classified as slight, and one was classified as serious. The two separate PIAs were recorded as multi-vehicle accidents also involving cars, and both occurred at the A813 Stirling Road/Burn Street priority junction.
- A total of three incidents were recorded to involve pedestrians.
- One incident which recorded a pedestrian PIA was recorded at the entrance arm to the Lomondgate Roundabout. The PIA was classified as slight and also involved a car. There are no pedestrian facilities at the location of the PIA.
- A young pedestrian PIA was recorded at the A813 (north) crossing point at the A813/Bridge Street signalised junction. The PIA was classified as serious and involved a car.
- A pedestrian PIA was recorded at Dalvait Road/A813/Davidson Road junction, approximately 20 m to the south of a signalised pedestrian crossing. The PIA was recorded as slight and involved an HGV.
- A total of four PIAs were recorded at the A813/Burn Street priority junction, of which two separate incidents involved cyclists, as outlined above. Another incident was recorded as a multi-vehicle collision involving cars and was classified as slight. The remaining incident involved a single-vehicle collision and was recorded as serious. No information is provided on CrashMap regarding the vehicle type involved in this incident.
- Young drivers (16-20) were involved in seven accidents, four were classified as slight, two were classified as serious, and one involved a fatality.

5.6.3 PIAs recorded along the A82(T), within the Study Area

A summary of the PIAs recorded along the A82(T), within the Study Area is as follows:

- A total of 70 PIAs were recorded along the A82(T), within the Study Area, of which 44 were classified as slight and 23 were classified as serious. Three fatalities were recorded.
- A PIA which involved a fatality was recorded at the priority junction with the A82(T) which provides access to the Cruin. The collision involved a motorcycle and a car. Another separate accident was located at the same location which resulted in a serious casualty and involved a motorcycle and a car.
- A fatal incident occurred along the A82(T), approximately 260 m north of the Overton Road underpass, which involved three vehicles including cars and a motorcycle.
- A fatal incident was recorded along the A82(T), approximately 140 m to the north of the Strowan's Well Road northbound bus stop. The incident was recorded to involve cars.
- Five separate PIAs were recorded involving cyclists, of which two incidents were recorded as slight and three incidents were recorded as serious.
- A total of 11 PIAs were recorded to involve motorcycles, of which two were recorded as slight, seven were recorded as serious and two fatalities was recorded, as outlined in further detail above.
- Five separate incidents involved pedestrians, of which two were recorded as slight and three were recorded as serious.

- Nine PIAs were recorded to include HGVs, eight of which were classified as slight and one which was classified as serious.
- One PIA involved a bus, which was classified as slight.
- Two serious PIAs were recorded at the same approximate location on the Lomondgate Roundabout carriageway. One of the incidents was recorded as a single-vehicle collision involving a motorcycle and one incident involved a multi-vehicle collision involving cars.
- Three incidents were recorded in the vicinity of the A82(T)/Strowan's Well Road/Greenhead Road crossroads, of which two incidents were classified as slight and one incident was classified as serious. A pedestrian casualty was involved in one of the incidents, which was classified as slight.
- A total of four incidents were recorded along the A82(T) at the A82 (T) / Glasgow Road priority junction, of which three were recorded as slight and one was recorded as serious. One of the incidents which was classified as slight was recorded as a multi-vehicle collision involving a car and a motorcycle.
- Two PIAs were recorded at the access to Renault / Dacia of which one of the incidents was classified as slight and involved a cyclist, and one was classified as serious and involved a motorcycle and a car.
- Three PIAs were recorded along the Dunglass Roundabout on the A82(T) eastbound exit arm, of which two were classified as serious and one was recorded as slight. The two separate incidents which were classified as serious were both recorded as multi-vehicle collisions involving a car and a motorcycle.
- Young drivers (16-20) were involved in seven accidents, five were classified as slight and one was classified as serious, and one resulted in a fatality.

5.6.4 PIAs recorded along the A811, within the Study Area

A summary of the PIAs recorded along the A811, within the Study Area is as follows:

- A total of 10 PIAs were recorded along the A811, within the Study Area, of which eight were classified as slight and two were classified as serious. No fatalities were recorded.
- Two PIAs were recorded involving pedestrians.
- One pedestrian PIA was recorded to the east of the A811/Carrochan Road and involved an HGV. This pedestrian PIA was classified as serious.
- One pedestrian PIA was recorded 110 m to the south-west of the Country Store was classified as slight and also involved a car. There is a footway on the eastern side of the A811 at the recorded PIA location.
- Two PIAs were recorded within the A811 study area, both of which were classified as slight.
- A total of three PIAs involved an HGV, of which two were classified as serious and one was classified as slight. One of the PIAs involving an HGV also involved a Bus and was classified as serious.
- Two PIAs involved motorcycles, both of which were classified as slight. One of the PIAs was recorded as a single vehicle collision, and one PIA was recorded as a multi-vehicle collision involving a motorcycle and a car.
- Two accidents were recorded along the A811, near the minor road opposite the Country Store, one of which was the PIA involving an HGV and Bus, as described above.

5.6.5 Summary of PIAs

Based on the information available, it has been established that there are no specific road safety issues within the immediate vicinity of the Proposed Development that currently require to be addressed or would be exacerbated by the construction of the Proposed Development. A single fatality was recorded approximately 50 m to the south of the proposed Site access junction, however this occurred in 2017 and was a single vehicle (motorcycle) incident. As such it is considered that there are no safety issues at this location.

In general, there are no locations within the Study Area where there are high numbers of accidents involving HGVs have been recorded.

Whilst it could be considered that a high number of PIA have been recorded in the Study Area, it should be noted that the roads are subject to high daily volumes of traffic and are key routes in the area, providing access to the central belt, highlands and west coast of Scotland. A large number of the PIA recorded on the wider

Study Area occurred at locations on the road network where there is an increased level of vehicle interaction, for example at junctions or on approach to junctions.

5.7 Future Baseline Traffic Conditions

5.7.1 2028 Traffic Flows, excluding Committed Development Trips

Construction of the Proposed Development could commence during 2028 if consent is granted and is anticipated to take approximately 21 months depending on weather conditions and ecological considerations.

To assess the likely effects during the construction, base year traffic flows were determined by applying a National Road Traffic Forecast (NRTF) low growth factor to the surveyed traffic flows. The NRTF low growth factor for 2019 to 2028 is 1.054. This growth factor has been applied to the survey data to estimate the 2028 Base traffic flows, as shown in Table 4. This will be used in the Construction Peak Traffic Impact Assessment.

Table 4 24-hour Average Traffic Data (2028)

Survey Location	Cars/LGV	HGV	Total	% HGV
A82(T) Old Kilpatrick	48,226	2,183	50,409	4.3%
A82(T) east of Milton	47,777	2,264	50,041	4.5%
A82(T) Dumbarton (south)	34,197	1,489	35,686	4.2%
A82(T) Dumbarton (north)	42,168	1,677	43,845	3.8%
A813 Stirling Road	11,810	511	12,321	4.1%
A82(T) north of Balloch	19,043	723	19,766	3.7%
A811 Balloch	12,821	514	13,335	3.9%

Please note that variances may occur due to rounding.

5.8 Committed Developments

5.8.1 Onshore Wind Farm and Energy Related Planning Applications

A review of West Dunbartonshire Council's online planning portal[5], in addition to the Scottish Government's Energy Consents Unit portal[6] was undertaken to identify any consented developments within the vicinity of the Proposed Development which would generate significant traffic. The review did not identify any relevant committed developments for inclusion within the assessment.

Projects in scoping or not yet determined cannot be included in cumulative assessments as they have yet to be determined. As traffic impacts are short lived for construction projects, the potential traffic impact is highly speculative and as such, cannot be included in the assessment.

5.8.2 Other Planning Applications

A review of the West Dunbartonshire Council's online planning portal was also undertaken for other any other developments with planning consent, which should be considered within this assessment. The review examined consented developments whose trips are considered significant in scale (i.e., has associated traffic impact of over 10%).

The review did not identify any other significant traffic generating developments in the Study Area that may occur during the construction period associated with the Proposed Development.

It should be noted that the use of Low NRTF growth assumptions has provided a basis for general local development growth within the Study Area.

[5] View planning applications, The Highland Council, Source: https://www.highland.gov.uk/info/180/planning_-_applications_warrants_and_certificates/143/planning_permission/4 (Date Sourced: 17/05/2022)
[6] https://www.energyconsents.scot/ApplicationSearch.aspx?T=1

6 Trip Generation and Distribution

6.1 Construction Phase

6.1.1 Trip Derivation

During the 21-month construction period, the following traffic will require access to the site:

- staff transport, in either cars or staff minibuses;
- construction equipment and materials, deliveries of machinery and supplies such as concrete and crushed rock;
- components relating to the battery storage element and associated infrastructure; and
- abnormal loads consisting of the wind turbine sections and a heavy lift crane.

Average monthly traffic flow data were used to establish the construction trips associated with the Proposed Development, based on the assumptions detailed in the following sections.

6.1.2 Construction Staff

Staff would arrive in non-HGV vehicles and where possible will be encouraged to car share. The workforce on site will depend on the activities undertaken but based on previous wind farm construction site experience for a project of this scale, it is considered that up to three staff per turbine during the short peak period of construction is likely, the maximum number of staff expected on site could be in the order of 30 per day.

For the purposes of estimating traffic movements, it was assumed that 40% of staff would be transported by minibus and 60% would arrive by car (single car occupancy was assumed as the worst case at this stage with potentially fewer movements through car sharing).

Based on these assumptions, staff transport cars and light vehicles would account for a maximum of 40 vehicle trips (20 inbound trips and 20 outbound trips) per day during the peak period of construction.

6.1.3 Abnormal Indivisible Load and Turbine Component Deliveries

The turbines are broken down into components for transport to the site. The nacelle, drive train, blade and tower sections are classified as AIL due to their weight, length, width and height when loaded. For the purposes of the report, the ‘worst case’ numbers of components requiring transport are illustrated in Table 5.

Table 5 Turbine Components

Components	Number of Components per turbine
Rotor Blades	3
Tower Sections	4
Nacelle	1
Hub	1
Drive Train	1
Nose Cone	1
Transformer	1
Ancillary	1
Site Parts	0.2

In addition to the turbine deliveries, up to two high-capacity erection cranes would be needed to offload a number of components and erect the turbines. The cranes are likely to be mobile cranes with a capacity up to 1,000 tonnes that are escorted by boom and ballast trucks to allow full mobilisation on site. Smaller erector cranes would also be present to allow the assembly of the main cranes and to ease the overall erection of the turbines.

Escort vehicles would accompany the AIL convoys to support the traffic management measures. Up to three vehicles would be deployed and it is assumed that three AIL turbine component loads would be delivered per convoy. This would result in 34 convoys on the network, with a total of approximately 204 escort journeys (102 trips in and 102 trips out).

Turbine components that do not classify as AILs, would be delivered in addition to these, resulting in a further 60 movements (30 trips in and 30 trips out). All of these deliveries are expected to occur over a period of approximately five months.

The escort vehicles have been assumed to be police cars and light goods vehicles. Motorcycles may be deployed, depending upon Police resources.

6.1.4 General Deliveries

Throughout the construction phase, general deliveries will be made to site via HGV. These would include fuel, site office supplies and staff welfare etc. At the height of construction, it is assumed that up to 40 journeys to site are made (20 in and 20 out) per month.

6.1.5 Material Deliveries

Various materials will need to be delivered to site to construct the site-based infrastructure. At the outset of the construction works, HGV deliveries will deliver plant and initial material deliveries to the site to enable the formation of the site compound and to deliver construction machinery.

The site is large enough to warrant on-site batching of concrete. All turbine and substation foundation concrete will be mixed on site, with deliveries of cement powder, water, sand and aggregates being delivered by HGV. For the purpose of this assessment, it is assumed that the cement powder and water will be delivered from concrete suppliers to the south, from suppliers located to the east of Dumbarton or the north of Bearsden.

Sand and aggregate not sourced from on-site borrow pits will be delivered by tipper HGV and is expected to come from local quarries, located to the south or southeast. There are a number of potential suppliers as illustrated in Table 6.

Table 6 Potential Quarry Locations

Company Name	Address	Distance*	Route
Pattersons Quarry	Quarry, Dumbuck Road, Dumbarton G82 2SE	7.8 km	A82(T), A813 Stirling Road to the site access.
William Thompson & Son Quarry	Dumbarton G82 2SF	5.8 km	A82(T), A813 Stirling Road to the site access.
Tarmac Douglasmuir Sand and Gravel Quarry	Stockiemuir Rd, Milngavie, Glasgow G62 7HJ	18.3 km	A809, B8050, A810, A8014, A82(T), A813 Stirling Road to the site access.

** distance is based on quarry access to site access*

The estimated total volume of concrete required on site is 13,044 m³, based upon expected turbine foundation, substation foundation and miscellaneous uses across the site. The individual deliveries associated with the raw materials have been estimated and result in inbound trips of 29 cement tankers, 413 sand and aggregate tippers, and 166 water tankers. It is currently proposed that all sand and aggregates required in the production of concrete on-site will be sourced from local suppliers, therefore ensuring a robust assessment.

Foundation calculations for the turbine bases and the substations are detailed in Table 7 below.

Table 7 Steel Reinforcement Deliveries

Element	Weight/Installation (t)	Total Weight (t)	Lorry Capacity (t)	Inbound Trips	Total Journeys
Turbine Foundation	88 per turbine	880	30	30	60
Substation Foundation	20	20	30	1	2

The on-site access tracks, compounds and crane hardstands will be constructed from crushed rock and the material would be obtained from the site via the proposed borrow pits or when creating the cuttings and other earthworks.

The access tracks would generally be 6 m in width and would be designed to accommodate 16tonne axle loads. In addition to the roads, crane pads will be constructed to enable the turbine erection process. The tracks, crane pads and compounds will require geotextile in the foundations.

To provide a robust assessment of potential traffic impact, it has been assumed that 50% of the material for tracks, hardstandings and compound areas will be imported to the site. This represents an overestimate, with borrow pit assessment that has been undertaken estimating that 100% of the required material can be won on-site. The assessment is therefore an over-estimate and is considered robust.

The estimate of imported material is detailed in Table 8.

Table 8 Track Material Deliveries

Element	Volume/Installation (m^3)	Total Weight (t)	Lorry Capacity (t)	Inbound Trips	Total Journeys
Assumed 50% of required stone	58,628	128,981	20	6,450	12,900

Geotextile will be delivered to site in rolls. A total of 138 large rolls may be required at site and would be delivered by HGV which will result in 14 journeys (7 trips in and 7 trips out).

Cables would connect each turbine to the internal substation and control building. Trip estimates for the cable materials and ducting are provided below in Tables 9 to 11. Three cables are to be provided within each cable trench and would be backfilled with cable sand. Geotextiles would be used to shield the trench and ducting would be used to protect the cable when it runs under roadways.

Table 9 Cable Trip Estimate

Element	Total Cable Length (m)	Length per Drum (m)	Number of Drums	Inbound Trips	Total Journeys
Cables	27,600	500	166	19	38

Table 10 Cable Sand Trip Estimate

Element	Volume (m^3)	Total Weight (t)	Lorry Capacity (t)	Inbound Trips	Total Journeys
Cable Sand	9,315	14,904	20	746	1,492

Table 11 Ducting Trip Estimate

Element	Total Cable Length (m)	Length per Drum (m)	Number of Drums	Inbound Trips	Total Journeys
Ducting	2,000	5	400	20	40

One substation building will be constructed on the site. This will require deliveries of building materials and structural elements and would result in 128 journeys (64 trips in and 64 trips out). Battery storage deliveries will result in a further 60 HGV journeys for battery, invertor and cabin/building deliveries etc.

The resulting traffic generation estimates have been plotted onto the indicative construction programme to illustrate the peak journeys on the network. Table 12 illustrates the trip generation throughout the construction programme.

Table 12 Construction Traffic Profile

Activity	Class	Month													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Site Establishment & Remediation	HGV	30	30	30											
Timber Felling/Extraction	HGV	1	1												
General Site Deliveries	HGV	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Bulk Material Deliveries	HGV			1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281	1,281		
Plant Deliveries	HGV	30	30	10											
Concrete Batching Deliveries	HGV				135	135	135	135	135	135	135	135	135		
Reinforcement	HGV				7	7	7	7	7	7	7	7	7		
Cable & Ducting Deliveries	HGV						20	20	20	20					
Cabling Sand	HGV						166	166	166	166	166	166	166	166	166
Geotextile Deliveries	HGV			4	4			4	4						
Substation	HGV				14	14	14	14	14	14	14	14	14		
AIL Cranage	HGV												10		
AIL Deliveries	HGV													53	53
AIL Escorts	Car & LGV													41	41
Battery Storage	HGV								12	12	12	12	12		
Commissioning	Car & LGV														
Staff	Car & LGV	440	440	880	880	880	880	880	880	880	880	880	880	880	880
Total HGV	HGV	101	101	1,365	1,481	1,477	1,662	1,666	1,678	1,674	1,655	1,655	1,665	259	259
Total Cars/LGV	Car & LGV	440	440	880	880	880	880	880	880	880	880	880	880	921	921
Total Movements		541	541	2,245	2,361	2,357	2,542	2,546	2,558	2,554	2,535	2,535	2,545	1,179	1,179
Total HGV per Day		5	5	62	67	67	76	76	76	76	75	75	76	12	12
Total Cars/LGV per Day		20	20	40	40	40	40	40	40	40	40	40	40	42	42
Total per Day		25	25	102	107	107	116	116	116	116	115	115	116	54	54

Please note variances due to rounding may occur.
Continued overleaf.

Activity	Class	Month						
		15	16	17	18	19	20	21
Site Establishment & Remediation	HGV					30	30	30
Timber Felling/Extraction	HGV							
General Site Deliveries	HGV	40	40	40	40	40	40	40
Bulk Material Deliveries	HGV							
Plant Deliveries	HGV							
Concrete Batching Deliveries	HGV							
Reinforcement	HGV							
Cable & Ducting Deliveries	HGV							
Cabling Sand	HGV							
Geotextile Deliveries	HGV							
Substation	HGV							
AIL Cranage	HGV			10				
AIL Deliveries	HGV	53	53	53				
AIL Escorts	Car & LGV	41	41	41				
Battery Storage	HGV							
Commissioning	Car & LGV			40				
Staff	Car & LGV	880	880	880	880	880	880	880
Total HGV	HGV	93	93	103	40	70	70	70
Total Cars/LGV	Car & LGV	921	921	961	880	880	880	880
Total Movements		1,014	1,014	1,064	920	950	950	950
Total HGV per Day		4	4	5	2	3	3	3
Total Cars/LGV per Day		42	42	44	40	40	40	40
Total per Day		46	46	48	42	43	43	43

Assumes that 50% of total estimated stone aggregate requirements will be imported to site.
Please note minor variances due to rounding may occur.

The peak of construction in terms of vehicular movements will be 116 daily journeys (40 Car/Lights and 76 HGV journeys). This is estimated to occur in five of the months of the overall 21 month programme.

6.1.6 Distribution of Construction Trips

The distribution of Proposed Development construction traffic on the network would vary depending on the types of loads being transported. The assumptions for the distribution of construction traffic during the peak months are as follows:

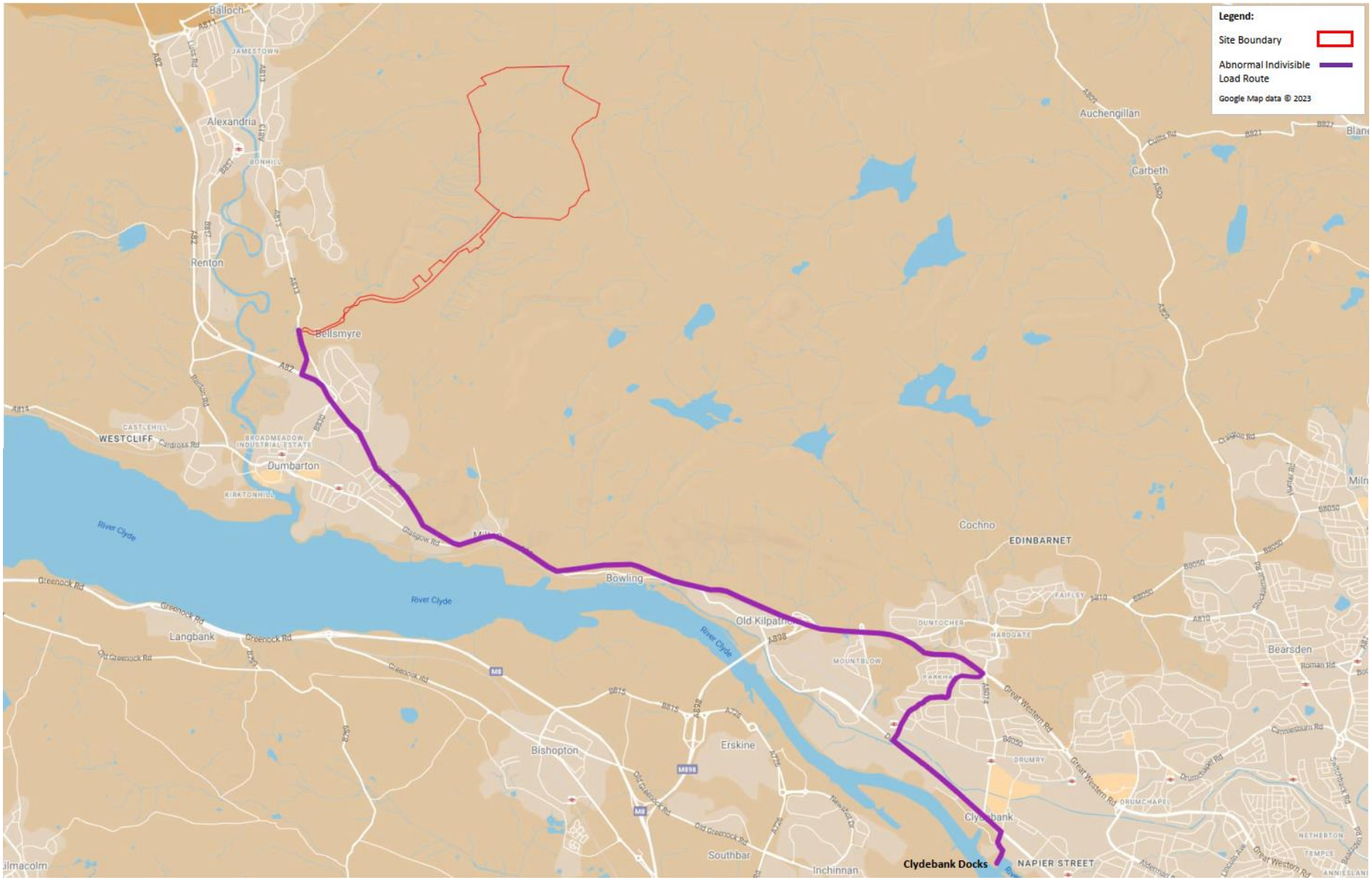
- all construction traffic enters the site via the proposed access on the A813 Stirling Road;
- deliveries associated with concrete materials, such as cement powder, water and sand/aggregates will be sourced from local concrete suppliers, which for the purpose of this assessment will originate from the A82(T) to the south;
- whilst it is anticipated that on-site borrow pits will be able to meet up to 100% of the aggregate requirements, for the purpose of this assessment it is proposed that 50% of track and hardstanding aggregate and 100% of concrete aggregate requirements will be sourced from local quarries, which will originate from the A82(T) to the south. The Balance of Plant (BoP) contractor will confirm final quarry and material sourcing with West Dunbartonshire Council in the final Construction Traffic Management Plan (CTMP);
- HGV deliveries associated with cabling and associated materials, etc. will arrive predominantly from the Central Belt and will travel to the site via the A82(T);
- staff working at the site are likely to be based locally. It is assumed that 90% will come from the A82(T) to the south and 10% from the north, from the Balloch area; and
- general site deliveries will arrive predominantly from the south via the A82(T).

For the purposes of preparing Volume 1, Chapter 9: Traffic and Transport and this TA, it has been assumed that all AIL traffic will access from the Proposed Development site via the following route:

- loads will exit the dock and continue north on Cart Street;
- loads will turn left onto Glasgow Road heading northwest;
- loads will turn right onto Duntocher Road (B814);
- at Kilbowie Roundabout, loads will take the first exit to join the A82(T) heading west;
- loads will continue west on the A82(T) to the Lomondgate roundabout where they will head north on to the A813 Stirling road;
- immediately after the A82/A813 Stirling Road Roundabout, they will negotiate the roundabout which provides access to the Aggreko Factory and service area; and
- loads will continue north on the A813 Stirling Road for approximately 460 m to the proposed site access junction.

The above route is shown in Figure 9.

Figure 9 AIL Component Delivery Route



The above route has been considered in full, within the AIL RSR, provided in Appendix A.

6.1.7 Peak Construction Traffic

Following the distribution and assignment of traffic flows to the Study Area network, the resultant daily traffic during the peak of construction are summarised in Table 13.

Table 13 Peak Construction Traffic

Survey Location	Cars/LGV	HGV	Total	%HGV
A82(T) Old Kilpatrick	36	76	112	67.9%
A82(T) east of Milton	36	76	112	67.9%
A82(T) Dumbarton (south)	36	76	112	67.9%
A82(T) Dumbarton (north)	36	76	112	67.9%
A813 Stirling Road	36	76	112	67.9%
A82(T) north of Balloch	0	0	0	0.0%
A811 Balloch	4	0	4	0.0%

Please note that variances may occur due to rounding.

6.2 Decommissioning Phase

Prior to decommissioning of the site, a traffic assessment would be undertaken, and appropriate traffic management procedures followed.

The decommissioning phase would result in fewer trips on the road network than the construction or operational phases as it is considered likely that elements of infrastructure such as access tracks would be left in place and structures may be broken up on site to allow transport by a reduced number of HGVs.

7 Traffic Impact Assessment

7.1 Construction Impact

The peak month traffic data was combined with the future year (2028) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in Table 14.

Table 14 Peak Construction Traffic Network Impact

Survey Location	Cars/LGV	HGV	Total	Cars/LGV % Increase	HGV % Increase	Total % Increase
A82(T) Old Kilpatrick	48,262	2,259	50,521	0.1%	3.5%	0.2%
A82(T) east of Milton	47,813	2,340	50,153	0.1%	3.4%	0.2%
A82(T) Dumbarton (south)	34,233	1,566	35,799	0.1%	5.1%	0.3%
A82(T) Dumbarton (north)	42,204	1,753	43,958	0.1%	4.5%	0.3%
A813 Stirling Road	11,846	587	12,434	0.3%	14.9%	0.9%
A82(T) north of Balloch	19,043	723	19,766	0.0%	0.0%	0.0%
A811 Balloch	12,825	514	13,339	0.0%	0.0%	0.0%

The highest total traffic movement increase within the Study Area is on the A813 Stirling Road, where it is predicted to increase by 0.9%. This is considered to be below daily traffic variation levels on the road network. On the rest of the public road network within the Study Area, the next highest total traffic increase (0.3%) is on the A82(T) in the vicinity of Dumbarton, to the south of the Proposed Development.

The total HGV traffic movements will increase by 14.9% on the A813 Stirling Road, where the proposed site access will be located. This is not considered to be a significant increase, with only 76 HGV movements per day predicted, which equates to approximately 6 two-way movements per hour over a typical 12 hour working day. On the rest of the public road network, the highest HGV traffic increase is 5.1%, which is on the A82(T) at Dumbarton, to the south of the Proposed Development.

It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short timeframe when taking account of the whole construction programme.

A review of existing theoretical road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 “The NESA Manual”. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the Study Area. The results are summarised in Table 15.

Table 15 Theoretical Road Capacity

Survey Location	2028 Baseline Flow (total traffic)	2028 Base + Development Flows (total traffic)	Theoretical Road Capacity (12hr)	Spare Road Capacity %
A82(T) Old Kilpatrick	50,409	50,521	72,000	29.8%
A82(T) east of Milton	50,041	50,153	72,000	30.3%
A82(T) Dumbarton (south)	35,686	35,799	72,000	50.3%
A82(T) Dumbarton (north)	43,845	43,958	72,000	38.9%
A813 Stirling Road	12,321	12,434	36,000	65.5%
A82(T) north of Balloch	19,766	19,766	72,000	72.5%
A811 Balloch	13,335	13,339	28,800	53.7%

The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and ample spare capacity exists within the trunk and local road network to accommodate all construction phase traffic.

8 Proposed Traffic Mitigation Measures

8.1 Construction Phase

8.1.1 Construction Traffic Management Plan (CTMP)

During the construction period, a project website, blog or Twitter feed would be regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site. This would be agreed with West Dunbartonshire Council.

The following measures would be implemented during the construction phase through the CTMP:

- agree AIL route modifications and improvements with West Dunbartonshire Council and other relevant stakeholders. Works which will be required to facilitate turbine deliveries are outlined in the respective delivery route options RSR, which are presented in Appendix A;
- where possible, the detailed design process would minimise the volume of material to be imported to site to help reduce HGV numbers;
- a site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times);
- a Transport Management Plan for AIL deliveries;
- all materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- wheel cleaning facilities may be established at the site entrance, depending on the views of West Dunbartonshire Council;
- normal site working hours would be limited to between 0700 and 1900 (Monday to Friday) and 0700 and 1300 (Saturday), though component delivery and turbine erection may take place outside these hours;
- appropriate traffic management measures would be put in place on the A813 Stirling Road leading through to the site, from its junction with the A82(T), to avoid conflict with general traffic, subject to the agreement of West Dunbartonshire Council. Typical measures would include HGV turning and crossing signs and/or banksmen at the site access and warning signs;
- provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the site;
- adoption of a voluntary reduced speed limits at locations to be agreed with West Dunbartonshire Council;
- all drivers would be required to attend an induction to include:
    - a toolbox talk safety briefing;
    - the need for appropriate care and speed control;
    - a briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and
    - identification of the required access routes and the controls to ensure no departure from these routes.

West Dunbartonshire Council are likely to request that an agreement to cover the cost of abnormal wear on its road network is made.

Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route would be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline would provide evidence of any change in the road condition during the construction phase. Any necessary repairs would be coordinated with West Dunbartonshire Council's roads team. Any damage caused by traffic associated with the proposed development during the construction period, that would be hazardous to public traffic, would be repaired immediately.

Damage to road infrastructure caused directly by construction traffic would be remediated, and street furniture that is removed on a temporary basis would be fully reinstated.

There would be a regular road review, and any debris and mud would be removed from the carriageway using an on-site road sweeper to ensure road safety for all road users.

Before the AILs traverse the routes from the POE, the following tasks would be undertaken to ensure load and road user safety:

- ensure any vegetation which may foul the loads is trimmed back to allow passage;
- confirm there are no roadworks or closures that could affect the passage of the loads;
- check no new or diverted underground services on the proposed route are at risk from the abnormal loads; and
- confirm the police are satisfied with the proposed movement strategy.

8.2 Abnormal Load Transport Management Plan

There are a number of traffic management measures that could help reduce the effect of AIL convoys.

All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the local authority and police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys would travel in the early morning periods before peak times while general construction traffic would generally avoid the morning and evening peak periods.

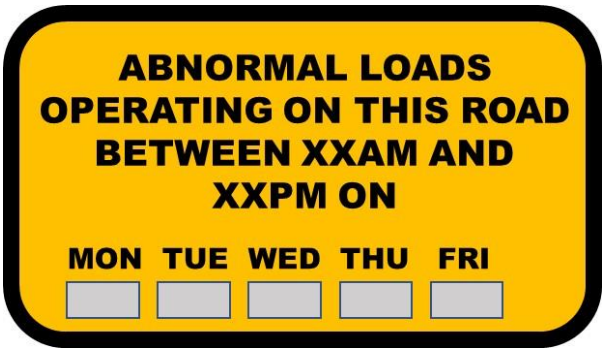
The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

Potential conflicts between the abnormal loads and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur:

- on the initial route section from Clydebank Docks through to A82(T) where the loads may straddle the centre line of the carriageway, for example along the A814 Duntocher Road;
- on the A813 Stirling Road, from its junction with the A82(T) to the south, where contraflow measures will be introduced so that the loads can navigate through the two roundabouts;
- at other locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width;
- where traffic turns at a road junctions, requiring other traffic to be restrained on other approach arms; and
- in locations where high speeds of general traffic are predicted.

Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help assist drivers and an example is illustrated in Figure 10. Flip up panels (shown in grey) would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor.

Figure 10 Example Information Sign



This signage will assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

The location and numbers of signs would be agreed post consent and would form part of the Traffic Management Proposal for the project.

The Abnormal Load Transport Management Plan would also include:

- procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;
- a diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- proposals to establish a construction liaison group to ensure the smooth management of the project/public interface with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

8.3 Public Information

Information on the AIL convoys would be provided to local media outlets such as local papers and local radio to help assist the public.

Information would relate to expected vehicle movements from the POE through to the site access junction. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts.

The applicant would also ensure information was distributed through its communication team via the project website, local newsletters, and social media.

8.4 Convoy System

A police escort would be required to facilitate the delivery of the predicted AILs. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible.

The abnormal loads convoys would be no more than three AIL long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.

The times in which the convoys would travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.

8.5 On-site Measures delivered using a Path Management Plan (PMP)

Within the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths and public roads. If required, a Path Planning Study will be conducted post consent and will be secured through a planning condition. Findings from the study will be used to formulate a set of measures into a Path Management Plan (PMP).

Users of the Rights of Way will be separated from construction traffic through the use of barriers. Crossing points will be provided where required, with path users having right of way. Appropriate Traffic Signs Manual

Chapter 8 compliant temporary road signage would be provided to assist at these crossing for the benefit of all users.

The principal contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the Core Paths, Rights of Way and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic.

Signage will be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly toolbox talks.

No scoping response has been received from The British Horse Society, however measures implemented on similar schemes will be given consideration as part of the Proposed Development. These measures are predominantly focused around the interactions between HGV traffic and horses. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flight animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

The main factors causing fear in horses in this situation are:

- something approaching them, which is unfamiliar and intimidating;
- a large moving object, especially if it is noisy;
- lack of space between the horse and the vehicle;
- the sound of air brakes; and
- anxiety on the part of the rider.

The British Horse Society has previously recommended the following actions that will be included in the site training for all HGV staff:

- on seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- if the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- the vehicle should not move off until the riders are well clear of the back of the HGV;
- if drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and
- all drivers delivering to the site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

8.6 Staff Travel Plan

A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include:

- appointment of a Travel Plan Coordinator (TPC);
- provision of public transport information;
- mini-bus service for transport of site staff;
- promotion of a car sharing scheme; and
- car parking management.

8.7 Operational Phase Mitigation

Site entrance roads will be well maintained and monitored during the operational life of the Proposed Development. Regular maintenance will be undertaken to keep the site access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

9 Summary & Conclusions

Pell Frischmann Consultants Ltd. has been commissioned by Coriolis Energy Ltd. (the Applicant), to undertake a Transport Assessment for the proposed Vale of Leven Wind Farm (the Proposed Development), located approximately 2.1 kilometres to the west of the nearest settlement Bonhill, in the West Dunbartonshire Council administrative area.

The Proposed Development will be accessed from the A813 Stirling Road, via new site access junction.

Existing traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.

The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development. The peak of construction in terms of vehicular movements will be 116 daily journeys (40 Car/Lights and 76 HGV journeys). This is estimated to occur in five of the months of the overall 21 month programme. Over the course of a typical 12 hour working day on the site, this would equate to approximately 10 two-way HGV movements per hour.

A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of both the construction and operational phase traffic flows. It is considered that these can be secured by condition with West Dunbartonshire Council.

No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

Appendix A Route Survey Report

Pell Frischmann

Vale of Leven Wind Farm

Abnormal Indivisible Load Route Survey

May 2022

106121

Report Ref.		**220405 Coriolis Vale Of Leven RSR**				
File Path		**https://pellf.sharepoint.com/sites/EdinburghOfficeTeam/Shared Documents/General/Projects/106121 Coriolis Vale of Leven/01 - WIP/Reports/220405 Coriolis Vale of Leven RSR.docx**				
Rev	**Suit**	**Description**	**Date**	**Originator**	**Checker**	**Approver**
01		Draft	14/05/2022	T Lockett	G Buchan	G Buchan

Ref. reference. Rev revision. Suit suitability.

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Appendices

1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by Coriolis Energy Ltd. (Coriolis) to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for wind turbine loads associated with the construction and development of Vale of Leven Wind Farm, located to the east of Alexandria, West Dunbartonshire.

The Route Survey Report (RSR) has been prepared to help inform Coriolis on the likely issues associated with the development of the site with regards to off-site transport and access for AIL traffic. This report is based upon a site visit and identifies the key issues associated with AIL deliveries and notes that remedial works, either in the form of physical works or as traffic management interventions will be required to accommodate the predicted loads.

The detailed assessment and subsequent designs of any remedial works are beyond the agreed scope of works between PF and Coriolis at this point in time.

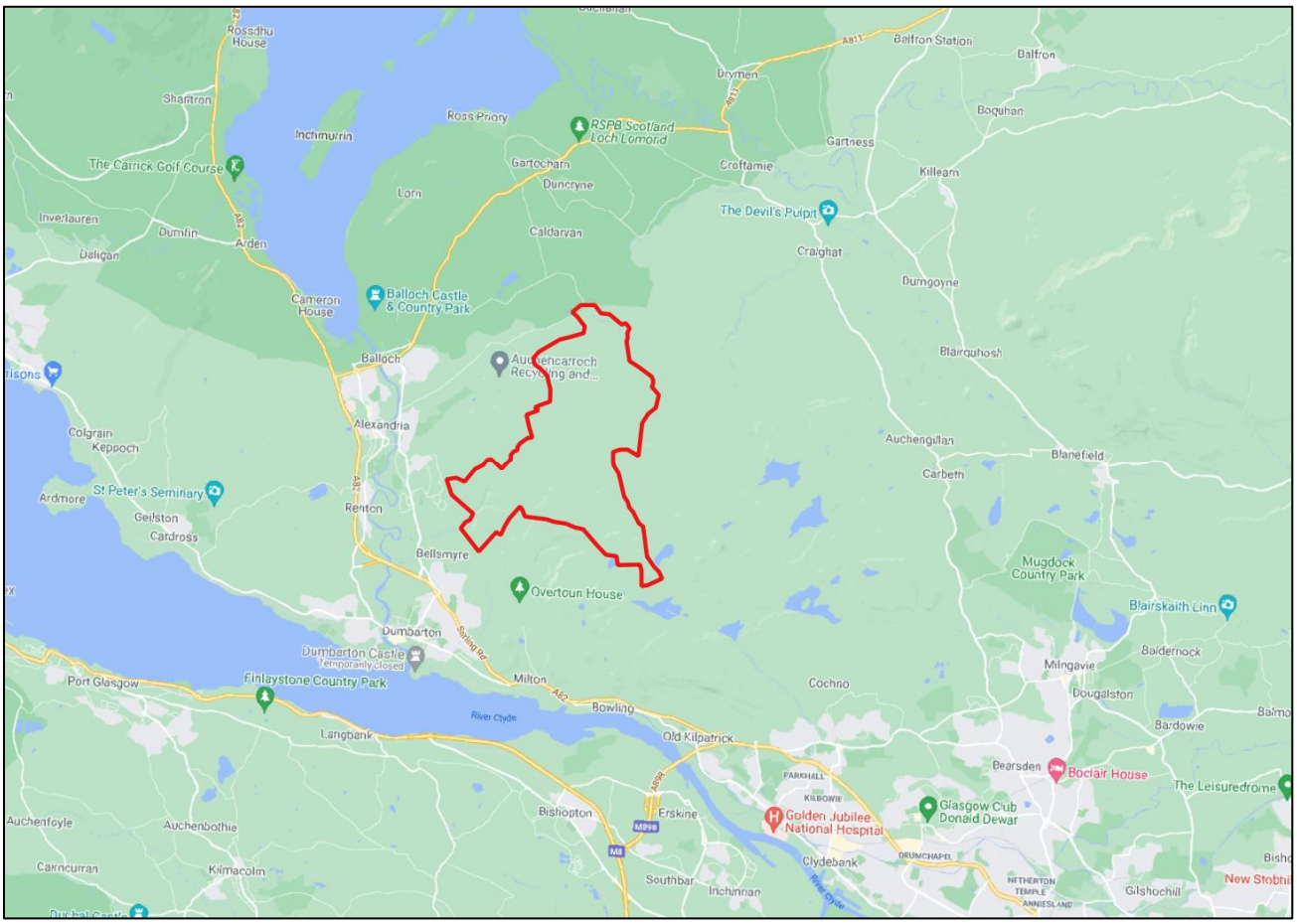
It is the responsibility of the wind turbine supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction. The turbine supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety consideration for all road users and in accordance with the relevant legislation at the time of delivery.

2 Site Background

2.1 Site Location

The development site is located to the east of Alexandria, West Dunbartonshire. Figure 2-1 illustrates the general site location.

Figure 2-1: Site Location Plan



2.2 Candidate Turbine

Coriolis have indicated that they wish to consider the worst case components from the Vestas V162 turbine at a tip height of 200m. The details of the worst case components are detailed in Table 2-1.

Table 2-1: Turbine Size Summary

Component	Length (m)	Width (m)	Height / Min Diameter (m)	Weight (t)
Blade	79.617	4.370	3.785	29.164
Base Tower	9.590	4.500	4.150	81000
Mid Tower 1	12.040	4.150	4.150	82000
Mid Tower 2	15.680	4.150	4.150	78000
Mid Tower 3	20.720	4.150	4.150	77000
Mid Tower 4	28.280	4.150	4.000	76000
Top Tower	30.000	4.000	4.000	62000
Nacelle	18.279	4.180	4.351	86.213
Drive Train	8.058	2.983	3.342	96.700
Hub	4.648	4.331	4.042	62.091

2.3 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route, it has been assumed that all blades would be carried on a Superwing Carrier trailer to reduce the need for mitigation in constrained sections of the route.

The base and mid towers would be carried on a 4+7 clamp trailer. The hub, nacelle housing, and top towers would be carried on a six-axle step frame trailer. The worst case loads for these sections will be considered in a further study.

Figure 2-2: Superwing Carrier Trailer

Figure 2-3: Tower Trailer

A scissor lift adaptor will be required at certain locations to elevate the blade tip to allow loads to oversail various obstructions without the need for intrusive ground works. This would involve an adaptor being fitted to the trailer and the H frame of the blade being hinged. The adaptor allows the blade (at the point of support) to be lifted up to 10m. An example of this is provided in Figure 2-4

The report notes where on the route this would need to be deployed in the raised position.

Figure 2-4: Scissor Lift Adaptor

3 Access Route Review

3.1 Port of Entry

The proposed Port of Entry (POE) is KGV Docks in Glasgow. The port is the closest suitable port to site and as such is in line with the Government's "Water Preferred" policy towards AIL movements.

The port has been used by renewables deliveries in the past for a number of wind farms, including Kype Muir, Kilgallioch, and Clyde wind farms.

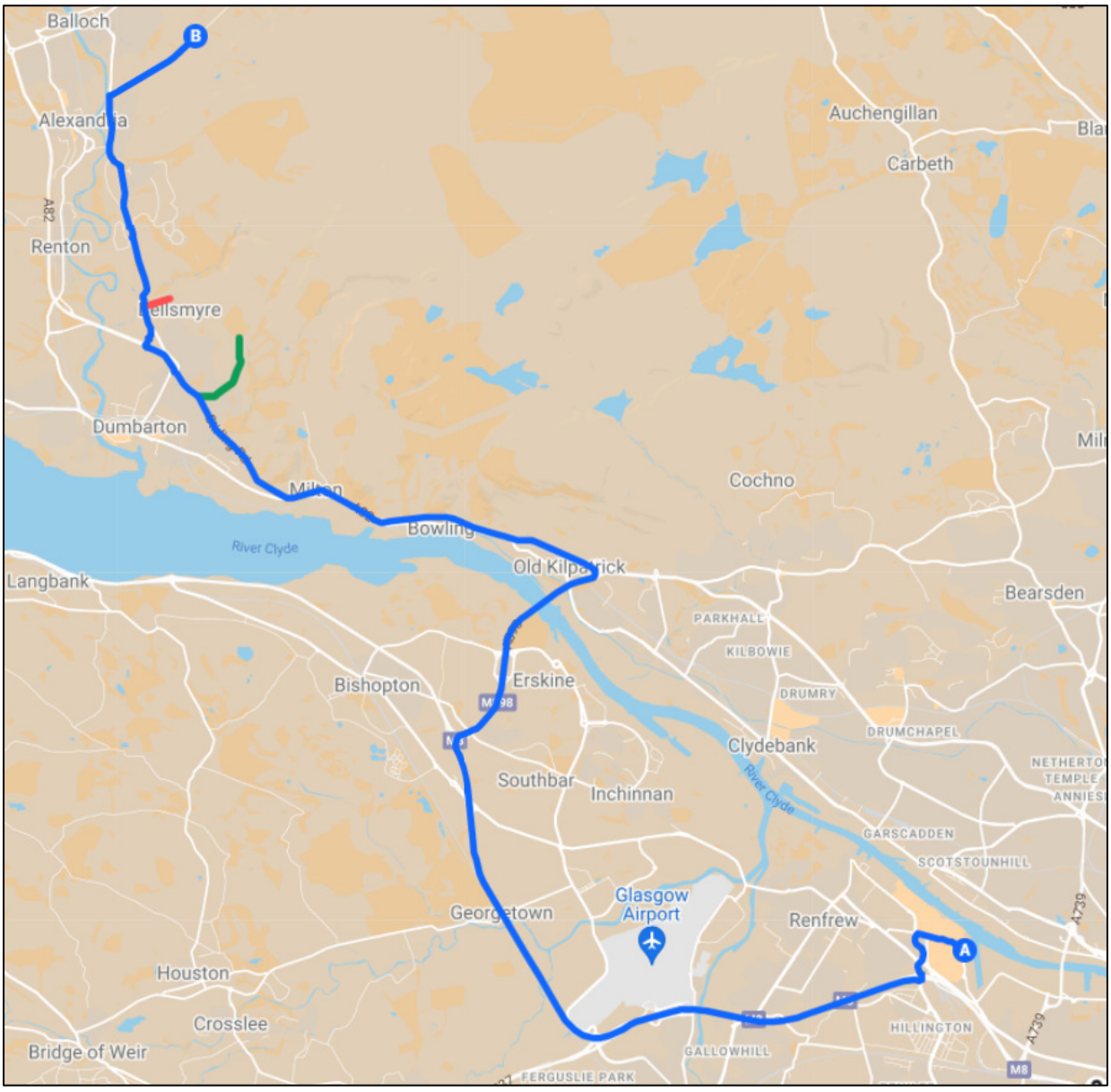
The port has sufficient quay and storage space and is well located for the strategic trunk road network.

3.2 Proposed Access Routes

Three site access options have been considered. A site visit to review the constraints was undertaken using an HD video review of all three routes. Points of Interest (POI) were recorded using a GPS tracker along the route.

The proposed access routes are illustrated in Figure 3-1.

Figure 3-1: Proposed Access Route



The three access options proposed all share a common access route from KGV Docks in Glasgow to the A82, namely:

- Exit the port at the abnormal load gate and proceed westbound on Kings Inch Drive;
- Loads would turn left onto Kings Inch Road and would join the M8 at Junction 26;
- Loads would proceed westbound the M8 through to Junction 30, where they would join the M898 / A898and would cross the Erskine Bridge;
- Loads would join the A82 westbound to Dumbarton.

The access options all diverge from this common route and are as follows:

- Option 1 (Blue): Depart the A82 and continue on the A813 through to Auchincarroch Road. Loads would then access the site via the Recycling Centre;
- Option 2 (Red): Depart the A82 and continue on the A813 northbound. Depart the A813 opposite the Aggreko Londgate site and proceed to site via a new access track running through Murroch Farm; or
- Option 3 (Green): Depart the A82 at Garshake Road and proceed to site via Garshake Road and new access tracks through to the site.

3.3 Route Constraints

The constraints noted on the route are detailed in Table 3-1. These cover all constraints from the port access gate through to the proposed site access junction. No consideration of the transport issues within the development site have been undertaken.

Plans illustrating the location of the constraints are provided in Appendix A.

Table 3-1: Constraint Summary

POI	Key Constraint	Details
1	**KGV Docks Exit** 	Loads will exit the junction, which has recently been upgraded. A swept path assessment has been undertaken and indicates that loads will overrun and oversail the central island of the roundabout, where the existing overrun area should be utilised. Loads will also oversail the central reservation of the north-western arm of the roundabout, where two lit road signs should be removed. Swept path drawing SK01 is included in Appendix B.
2	**IKEA Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that loads will oversail the southern verge of the entry arm, where one lighting column should be removed. Loads will also oversail the northern verge of the entry arm as well as the southern verge of the roundabout central island, though no further mitigation will be required. Swept path drawing SK02 is included in Appendix B.

POI	Key Constraint	Details
3	**Braehead Shopping Centre Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that the loads will not overrun or oversail the verges of the carriageway at this location. Swept path drawing SK03 is included in Appendix B.
4	**Junction 25a Slip Road** 	Loads will proceed ahead at the junction. Loads will require access to both lanes of the junction at this location.
5	**Kings Inch Road Junction** 	Loads will turn left at the junction onto Kings Inch Road. A swept path assessment has been undertaken and indicates that the loads oversail both verges of the carriageway on approach to the junction. Two sets of traffic signal heads should be removed from the northern verge. One traffic signal head should be removed from the southern verge. Loads will oversail the central island of the junction, where three sets of traffic signal heads and pedestrian guardrail should be removed or lowered. Loads will also overrun and oversail the central reservation of the southern arm, where a load bearing surface should be laid. One lit road sign should also be removed. Swept path drawing SK04 is included in Appendix B.
6	**Kings Inch Road Bend** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail both the eastern and western verge of the carriageway, though no further physical mitigation will be required. Swept path drawing SK04 is included in Appendix B.

POI	Key Constraint	Details
7	**A8 Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that the loads will oversail the central island of the roundabout, where three sets of traffic signal heads and two lit road signs should be removed. Loads will also oversail the eastern verge of the exit arm, where one lighting column should be removed. Swept path drawing SK05 is included in Appendix B.
8	**M8 Junction 26 Interchange** 	Loads will right onto the M8 westbound at the junction, taking the third exit. A swept path assessment has been undertaken and indicates that loads will overrun and oversail the southern verge of the central island, where a load bearing surface should be laid. Two sets of chevron signs, three traffic signal heads, two lighting columns, one road sign and a pedestrian guardrail should be removed. Loads will overrun and oversail the south-eastern verge of the roundabout, where load bearing surfaces should laid and the kerbs should be protected. They will then oversail the eastern verge of the roundabout, where one lighting column and one traffic signal head should be removed. The loads will overrun and oversail the central reservation of the southern arm, where a load bearing surface should be laid. Electrical junction boxes, one road sign, one lighting column, two traffic signal heads and pedestrian guardrail should be removed. Loads will also oversail both verges, upon exiting the roundabout, where three road signs and one electric road sign should be removed. **Third party land** will be required. Swept path drawing SK06 is included in Appendix B.

POI	Key Constraint	Details
9	**M8 / M898 Junction**  	Loads will depart the M8 at Junction 30 and will join the M898 northbound. A swept path assessment has been undertaken of the bend following the diverge and this indicates that loads will oversail both verges of the carriageway. Trees and vegetation should be trimmed on the eastern verge. Swept path drawing SK07 is included in Appendix B.
10	**M898 AIL Load Layby** 	An AIL layby is provided on the southern bank of the Erskine Bridge. This may provide a useful traffic management area is required by the Police.
11	**A898 / A82 Merge** 	Loads will diverge form the A898 onto the A82 westbound. A swept path assessment has been undertaken and indicates that loads will oversail both verges of the carriageway. One road sign and two chevron signs should be removed from the eastern verge. One lit road sign should be removed from the western verge. Loads will oversail the barrier on both sides of the carriageway. Proximity to embankment to be confirmed during the test run. Swept path drawing SK08 is included in Appendix B.

POI	Key Constraint	Details
12	**A82 / Dumbarton Road Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that loads will oversail both verges on approach to the roundabout as well as the central island of the roundabout. One lit road sign and two lighting columns should be removed form the southern verge of the carriageway. Two sets of chevron signs should be removed from the southern verge of the roundabout's central island. Loads will oversail the barriers on the northern verge of the carriageway. Traffic should be held at this location during movement of loads. Swept path drawing SK09 is included in Appendix B.
13	**A82 Dumbarton Road Bend** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail the southern verge of the carriageway, though no further physical mitigation will be required. Swept path drawing SK10 is included in Appendix B.
14	**A82 / A814 Junction** 	Loads will proceed ahead at the junction. Loads will require access to both lanes of the junction at this location. A swept path assessment has been undertaken and indicates that loads will oversail the central reservation of the carriageway. One set of traffic signal heads and one bollard should be removed from the eastern side of the junction. One set of traffic signal heads should be removed from the western side of the junction. Swept path drawing SK11 is included in Appendix B.
15	**A82 Stirling Road Bend** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail the central reservation, where a section of hazard markers should be removed. Oncoming traffic should be held at this location during movement of loads. Swept path drawing SK12 is included in Appendix B.

POI	Key Constraint	Details
16	**A82 Stirling Road Bend 2** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail the central reservation of the carriageway. One lit road sign should be removed from both the northern and southern side of the junction. Swept path drawing SK13 is included in Appendix B.
17	**Barloan Toll Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that loads will oversail both verges of the carriageway on approach to the roundabout, where one lighting column and one traffic signal head should be removed from the western verge. Loads will overrun and oversail the western verge of the roundabout's central island, where a load bearing surface should be laid. Two sets of lit chevron signs and three traffic signal heads should also be removed. Loads will also oversail the western verge of the exit arm, though no further physical mitigation will be required. Swept path drawing SK14 is included in Appendix B.
18	**Lomondgate Roundabout** 	Loads will right onto the A813 northbound at the junction, taking the third exit. A swept path assessment has been undertaken and indicates that loads will cross the central reservation. A load bearing surface should be laid. Two road signs, two pedestrian signal heads, one lighting column, one bollard and a section of guardrail should be removed. Loads will also overrun and oversail the north-eastern verge of the roundabout's central island, where a load bearing surface should be laid. One set of chevron signs and two traffic signal heads should be removed. The loads will oversail the north-eastern verge of the roundabout, where two sets of traffic signal heads, one lit road sign and one lighting column should be removed. Loads will also oversail the central reservation of the roundabout's northern arm, where one lit road sign, one traffic signal head, one road sign, one lighting column and one bollard should be removed. A load bearing surface should also be laid. Swept path drawing SK15 is included in Appendix B.

POI	Key Constraint	Details
19	**Premier Inn Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that the loads will oversail the western verge of the carriageway on approach to the roundabout, where the pedestrian guardrail should be removed. Loads will overrun and oversail the central island of the roundabout, where a load bearing surface should be laid. Two sets of lit chevron signs and vegetation should be removed. Swept path drawing SK15 is included in Appendix B.
20	**Access Option 2 Junction** 	For access Option 2, loads will right onto an improved junction and would then proceed to site via a new / upgraded private access track to the turbine locations. A swept path assessment has been undertaken and indicates that loads will overrun and oversail the eastern verge prior to the junction, where a load bearing surface should be laid and the kerb should be protected. One road sign, bus stop, fencing and vegetation should be removed. If access option one is chosen, loads will travel straight ahead through the junction. The undertaken swept path analysis indicates that the loads will oversail the western verge of the carriageway, though no further physical mitigation will be required. Loads will also oversail the central island at the junction, where two bollards should be removed. **Third party land** will be required. Swept path drawing SK16 is included in Appendix B.
21	**Chivas Brothers Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A contraflow transit of the junction is required. A swept path assessment has been undertaken and indicates that loads will oversal the eastern verge of the central island, where one set of lit chevron signs should be removed. Loads will also oversail the eastern verge of the roundabout's exit arm, where two lighting columns should be removed. Swept path drawing SK17 is included in Appendix B.

POI	Key Constraint	Details
22	**A813 Bend and Tree Canopy** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail both verges of the carriageway. Proximity to lighting columns should be confirmed during test run. The tree canopy will need to be trimmed to allow a clear 5m head height. Trimming works may be subject to ecological constraints and early engagement with West Dunbartonshire Council is recommended. Swept path drawing SK17 is included in Appendix B.
23	**A813 Vertical Alignment** 	The vertical alignment of two humps in the road should be reviewed if access option 1 is used. The alignment should be confirmed using a topographical survey of the road centre line.
24	**A813 / Kingfisher Avenue Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that loads will oversail the western verge of the roundabout's entry and exit arms, though no further physical mitigation will be required. Loads will oversail the central island, where two sets of lit chevron signs should be removed. Loads will also oversail the central reservation of the exit arm, where one bollard should be removed. Swept path drawing SK18 is included in Appendix B.
25	**A813 / Strathleven Drive Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that loads will oversail the central reservation of the entry arm, where one bollard should be removed. Loads will overrun and oversail the central island, where a load bearing surface should be laid and the kerb should be protected. One set of chevron signs should also be removed. Loads will also oversail the central reservation of the exit arm, where one bollard should be removed. Swept path drawing SK19 is included in Appendix B.

POI	Key Constraint	Details
26	**A813 Vertical Alignment & Double Bend**  	Loads will continue ahead through the bend. In advance of the bend, the vertical alignment of the road should be reviewed if access option 1 is used. The alignment should be confirmed using a topographical survey of the road centre line. A swept path assessment of the double bend has been undertaken and indicates that the loads will oversail the eastern verge of the carriageway, though no further physical mitigation will be required. Swept path drawing SK20 is included in Appendix B.
27 & 28	**A813 Bend**  	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that loads will oversail both verges of the carriageway, though no further physical mitigation will be required. Swept path drawing SK21 is included in Appendix B.
29	**Oakburn Walk Roundabout** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that the loads will oversail the central reservation of the roundabout's entry arm, though no further physical mitigation will be required. Swept path drawing SK22 is included in Appendix B.

POI	Key Constraint	Details
30	**Auchincarroch Road Junction** 	Loads will turn right at the junction onto Auchincarroch Road. The scissor lift adapter should be used and the blade tip elevated at this location to reduce tree trimming works to the west. A swept path assessment has been undertaken and indicates that loads will oversail the western verge of the junction, where one road sig should be removed and trees trimmed / cut to enable the blade oversail. **Third party land** will be required Loads will oversail the south-eastern verge of the junction, where one road sign, one junction box, boundary walls and gates and one lighting column should be removed. Trees and vegetation should also be removed from private gardens. **Third party land** will be required. Loads will also oversail the northern verge of the carriageway, though no further physical mitigation will be required. Swept path drawing SK22 is included in Appendix B.
31	**Auchincarroch Road Vertical Alignment** 	Loads will continue ahead on Auchincarroch Road The vertical alignment of the road should be reviewed if access option 1 is used. The alignment should be confirmed using a topographical survey of the road centre line.
32	**Auchincarroch Road Tree Canopy and Traffic Management Plan** 	Loads will continue ahead on Auchincarroch Road. The tree canopy will need to be trimmed to allow a clear 5m head height. Trimming works may be subject to ecological constraints and early engagement with West Dunbartonshire Council is recommended. A traffic management plan will be required for all wind farm traffic is using access option 1 given that this section of road is only wide enough for one vehicle.
33	**Overhead Utilities** 	A low utility line was noted at this location. The clearance to the overhead utility lines should be confirmed to ensure that sufficient head height is available for all loads without the danger of snagging or flashover.

POI	Key Constraint	Details
34	**Auchincarroch Road Bend** 	Loads will continue ahead through the bend. A swept path assessment has been undertaken and indicates that the loads will not overrun or oversail the carriageway at this location, therefore no further physical mitigation will be required.
35	**Auchincarroch Road Vertical Alignment and Tree Canopy** 	Loads will continue ahead on Auchincarroch Road. The vertical alignment of the road should be reviewed if access option 1 is used. The alignment should be confirmed using a topographical survey of the road centre line. The tree canopy will need to be trimmed to allow a clear 5m head height. Trimming works may be subject to ecological constraints and early engagement with West Dunbartonshire Council is recommended.
36	**Access Junction** 	Loads would turn at the junction and would then proceed to site using the existing road and new access tracks to enter the wind farm site. A swept path assessment has been undertaken and indicates that loads will oversail the north-western verge of the junction, where one road sign should be removed. Loads will also overrun and oversail the north-eastern verge of the junction, where a load bearing surface should be laid. One utility post, fencing and vegetation should be removed. **Third party land** will be required. Swept path drawing SK23 is included in Appendix B.

POI	Key Constraint	Details
37	**Garshake Road Junction** 	For access option 3, loads would turn right onto Garshake Road. A swept path assessment has been undertaken and indicates that loads will oversail the western verge of the junction, where two lighting columns should be removed. Loads should be lifted using the scissor lift adapter to allow for oversail over residential building. Loads will overrun and oversail the central reservation of the junction, where a load bearing surface should be laid. One pedestrian crossing signal and a section of guardrail should be removed. Loads will also overrun and oversail the south-western verge of the junction, where a load bearing surface should be laid. Two pedestrian crossing signals, one road sign and one lighting column should be removed. Proximity to stone wall should be confirmed during test run. **Third party land** will be required. Swept path drawing SK24 is included in Appendix B.
38	**Garshake Road Parking** 	Loads will continue ahead on Garshake Road. A swept path assessment has been undertaken and indicates that loads will oversail the northern verge of the carriageway, though no further physical mitigation will be required. Parking on both sides of the road will need to be banned at this location. This can be undertaken via a Temporary Traffic Regulation Order (TTRO) or voluntary agreement. Early engagement with West Dunbartonshire Council is recommended. The gradient of Garshake Road is high and deliveries at night should not be undertaken given the high revs required to climb the hill. Swept path drawing SK25 is included in Appendix B.
39	**Garshake Road Junction** 	Loads will continue on Garshake Road, turning left at the junction. A swept path assessment has been undertaken and indicates that loads will oversail both verges of the carriageway. One lighting column should be removed from the southern verge. Trees and vegetation should also be trimmed. Swept path drawing SK26 is included in Appendix B.

POI	Key Constraint	Details
40	**Garshake Road Vertical Alignment and Overhead Utilities** 	Loads will continue ahead on Garshake Road. Two low utility lines was noted at this location. The clearance to the overhead utility lines should be confirmed to ensure that sufficient head height is available for all loads without the danger of snagging or flashover. The vertical alignment of the road should be reviewed if access option 3 is used. The alignment should be confirmed using a topographical survey of the road centre line. Parking on both sides of the road will need to be banned at this location. This can be undertaken via a Temporary Traffic Regulation Order (TTRO) or voluntary agreement. Early engagement with West Dunbartonshire Council is recommended.
41	**Access Junction** 	Loads will turn onto the private access road to the left and will use this to access the wind farm site. A swept path assessment has been undertaken and indicates that loads will oversail the eastern verge of the carriageway, where two utility posts should be removed. Loads will also overrun and oversail the western verge of the junction, where a load bearing surface should be laid. Fencing and trees should be removed. The loads will also oversail the north-eastern verge, where trees should be trimmed. The private road will need to be reconstructed to turbine supplier standards and further works along it will be necessary to widen and strengthen the road. **Third party land** will be required. Swept path drawing SK27 is included in Appendix B.

3.4 Swept Path Assessment Results and Summary

The detailed swept path drawings for the locations assessed are provided in Appendix B for review. The drawings in Appendix B illustrate tracking undertaken for the worst case loads at each location.

The colours illustrated on the swept paths are:

- Grey / Black – OS / Topographical Base Mapping;
- Green – Vehicle body outline (body swept path);
- Red – Tracked pathway of the wheels (wheel swept path); and
- Purple – The over-sail tracked path of the load where it encroaches outwith the trailer (load swept path).

Where mitigation works are required, the extents of over-run and over-sail areas are illustrated on the swept path drawings.

Please note that where assessments have been undertaken using Ordnance Survey (OS) base mapping, there can be errors in this data source.

Where provided by the client, topographical data has been utilised. Please note that PF cannot accept liability for errors on the data source, be that OS base mapping or client supplied data.

3.5 Land Ownership

The limits of road adoption can vary depending upon the location of the site and the history of the road agencies involved. The adopted area is generally defined as land contained within a defined boundary where the road agency holds the maintenance rights for the land. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge.

In rural areas the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. The has previously stated that their general rule is that the area of adoption is between established fence / hedges lines or a maximum 2m from the road edge. This can vary between areas and location.

3.6 Weight Review

A weight review has been undertaken via the ESDAL (Electronic Service Delivery for Abnormal Loads) contacts database using the Highways Agency website www.esdal.com.

All of the relevant ESDAL contacts are noted in Table 3-2 and all have been contacted to ascertain if there are any relevant constraints that should be noted.

Table 3-2: ESDAL Contacts

Organisation	Email Address
Glasgow City Council	abnormalloads@glasgow.gov.uk
Renfrewshire Council*	ei@renfrewshire.gov.uk
West Dunbartonshire Council	cameron.muir@west-dunbarton.gov.uk
M8 DBFO	m8dbfo.abloads@amey.co.uk
Amey	SWAbloads@amey.co.uk
Police Scotland	osdwindfarmabnormalloads@scotland.pnn.police.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
Historic Rail Estate	rsgbrb@jacobs.com
Scottish Canals	SCAbnormal.Loads@scottishcanals.co.uk
Transport Scotland	AbnormalLoads@transport.gov.scot

* Renfrewshire Council have previously advised that they will not enter into discussions with consultants and will only engage with hauliers immediately prior to loads moving. As such they have not been consulted.

The responses from the ESDAL search are contained in Appendix C.

3.7 Summary Issues

Route Options 1 and 3 are complex and should not be considered in further detail. Option 2 is the preferred access option and should be adopted unless other issues force this option to be abandoned.

It is strongly suggested that following a review of the RSR, Coriolis should undertake the following prior to the delivery of the first abnormal loads, to ensure load and road user safety:

- That any necessary topographical surveys are undertaken and the swept path results completed;
- A review of axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last minute changes to structures;

- A review of clear heights with utility providers and the transport agencies along the route to ensure that there is sufficient space to allow for loads plus sufficient flashover protection (to electrical installations);
- That any verge vegetation and tree canopies which may foul loads is trimmed prior to loads moving;
- That a review of potential roadworks and or closures is undertaken once the delivery schedule is established in draft form;
- That a condition survey is undertaken to ascertain the extents of road defects prior to loads commencing to protect the developer from spurious damage claims.

4 Summary

4.1 Summary of Access Review

PF has been commissioned by Coriolis to prepare a Route Survey Report to examine the issues associated with the transport of AIL turbine components to the development site.

This report identifies the key points and issues associated with the proposed routes and outlines the issues that will need to be considered for successful delivery of components. Option 2 is considered to be the most suitable option.

The report is presented for consideration to Coriolis. Various road modifications, structural reviews and interventions are required to successfully access the site. If these are undertaken, access to the consented wind farm site is considered feasible.

4.2 Further Actions

The following actions are recommended to pursue the transport and access issues further:

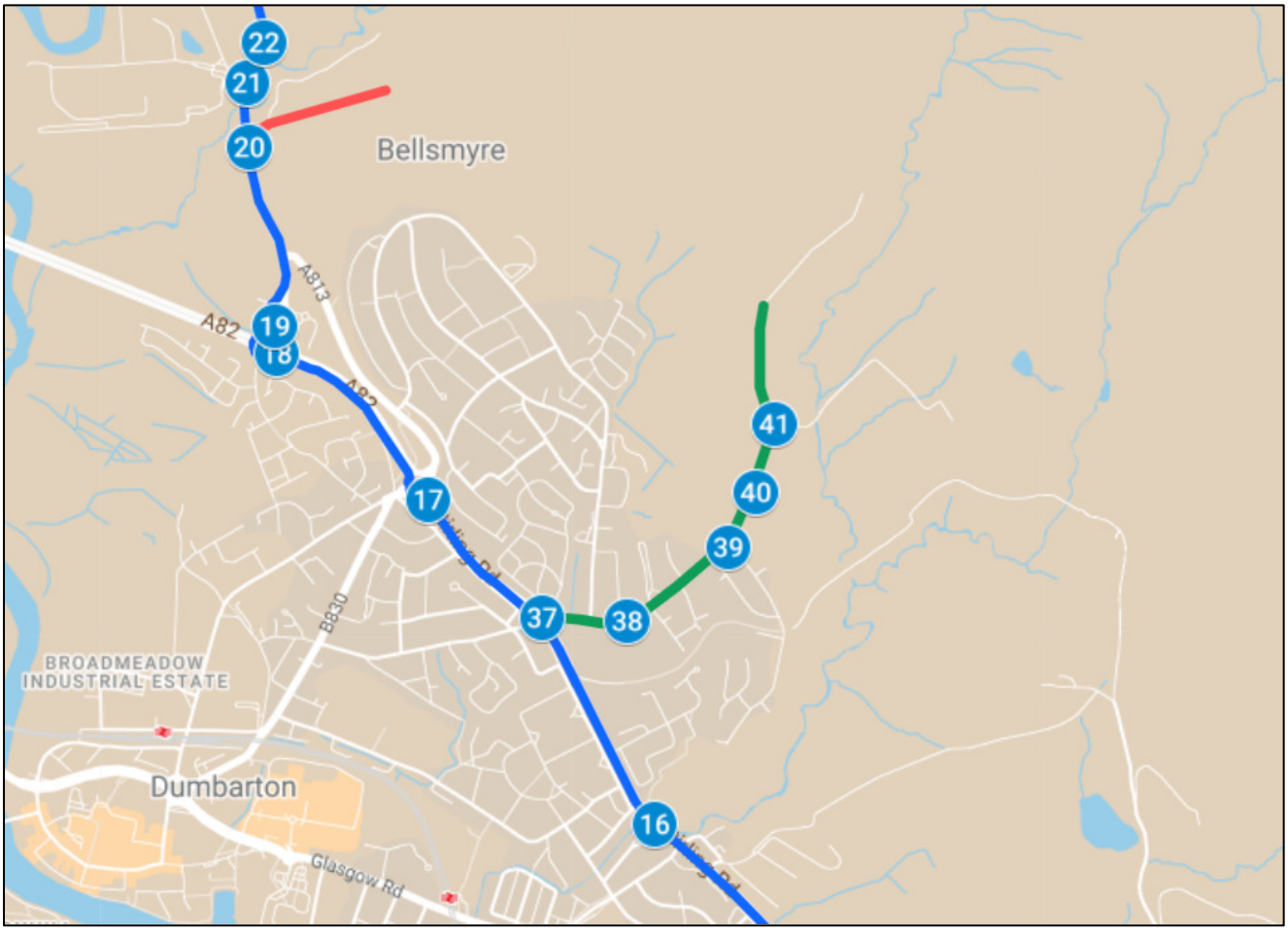
- Prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- Obtain the necessary land options;
- Undertake discussion with the affected utility providers and roads agencies;
- Obtain the necessary statutory licences to enable the mitigation measures; and
- Develop a detailed operational Transport Management Plan to assist in transporting the proposed loads.

Appendix A Points of Interest

An electronic version of these plans can be found here:

https://www.google.com/maps/d/edit?mid=1XVepFyZo9mKU62wVVM0ERnWne3RC_r2P&usp=sharing


15
14
13
12
11
10
9
Glasgow Rd
Bowling
River Clyde
Old Kilpatrick
River Clyde
Greenock Rd
M8
B815
B815
A726
Erskine
Bishopton
A726
Old Greenock Rd
Greenock Rd
Old Greenock Rd
A725
Newshot Dr
Southbar
Inchinnan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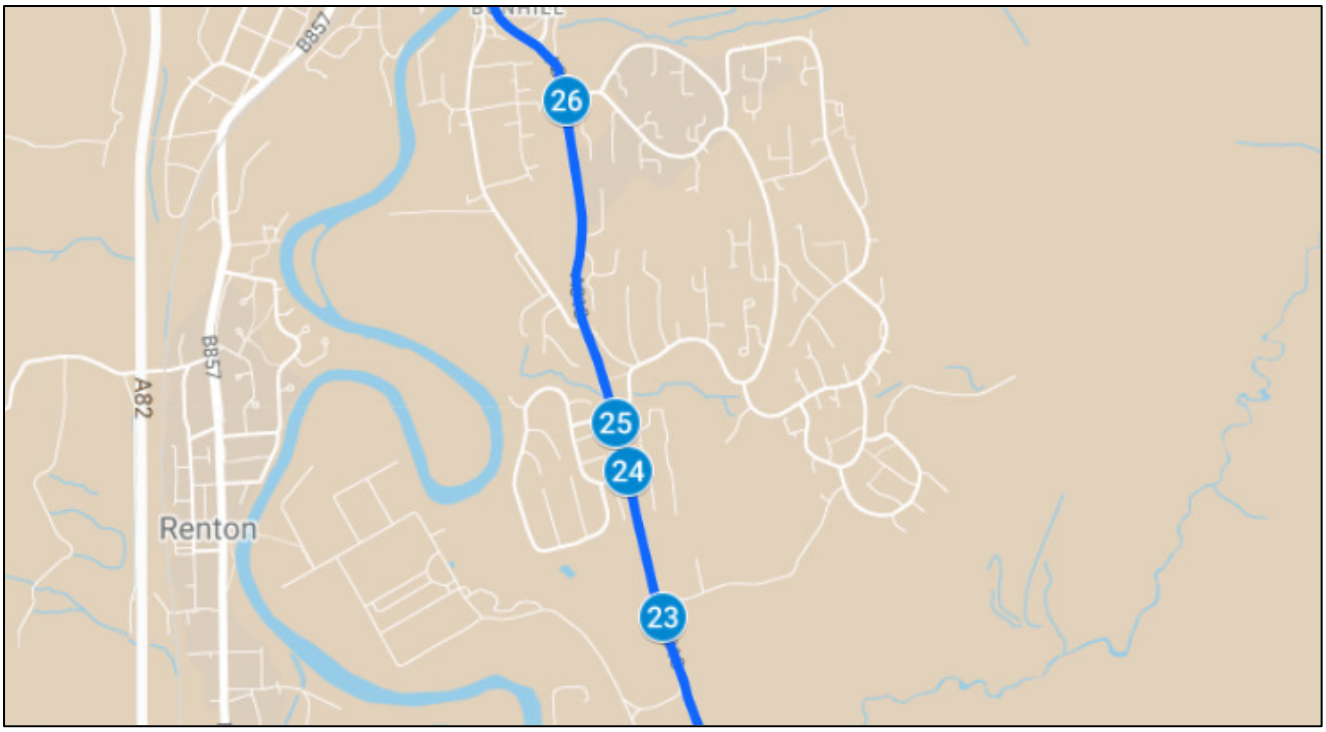
21
20
Bellsmyre
A813
A82
19
18
41
40
39
17
37
38
B830
BROADMEADOW
INDUSTRIAL ESTATE
Dumbarton
16
Glasgow Rd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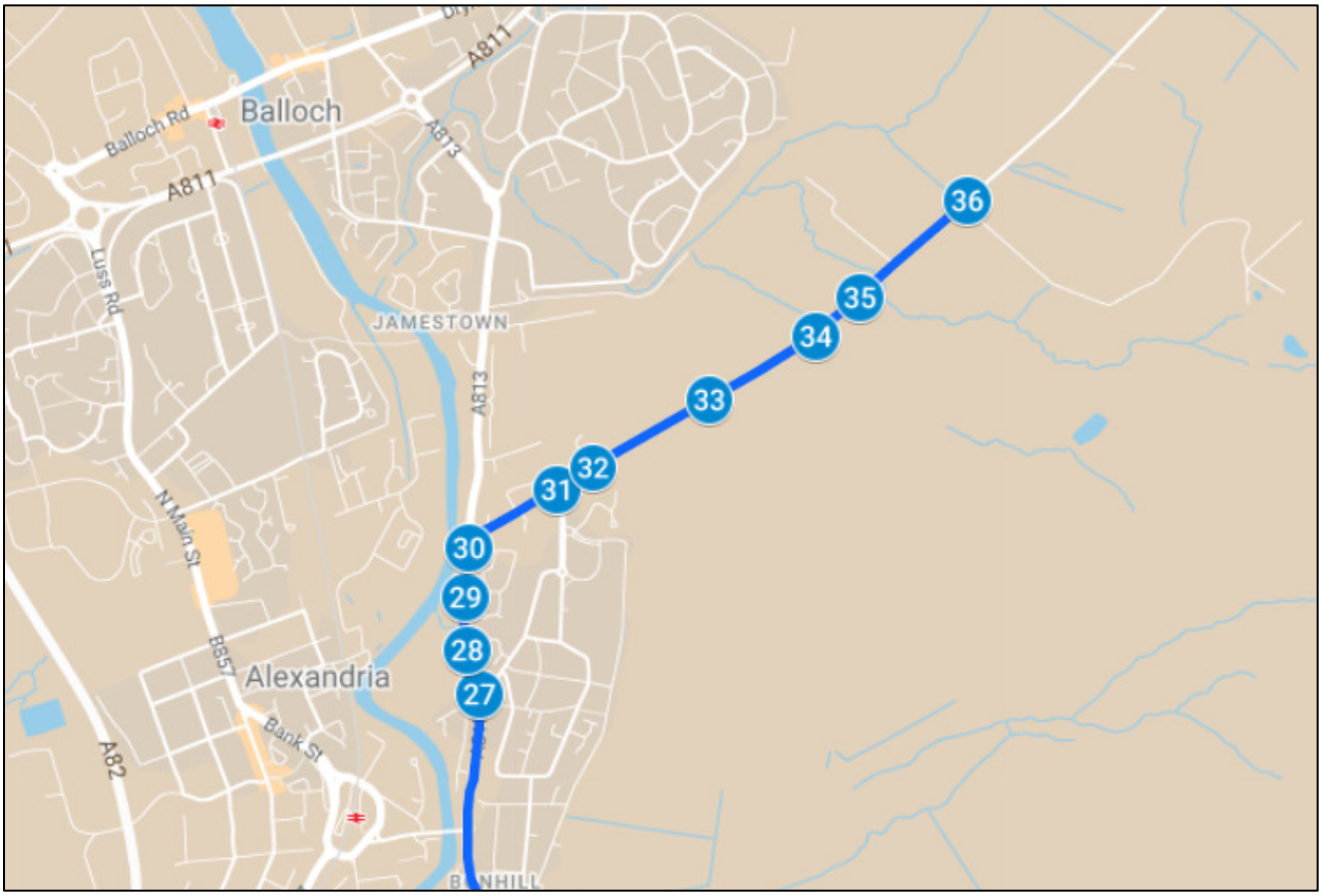
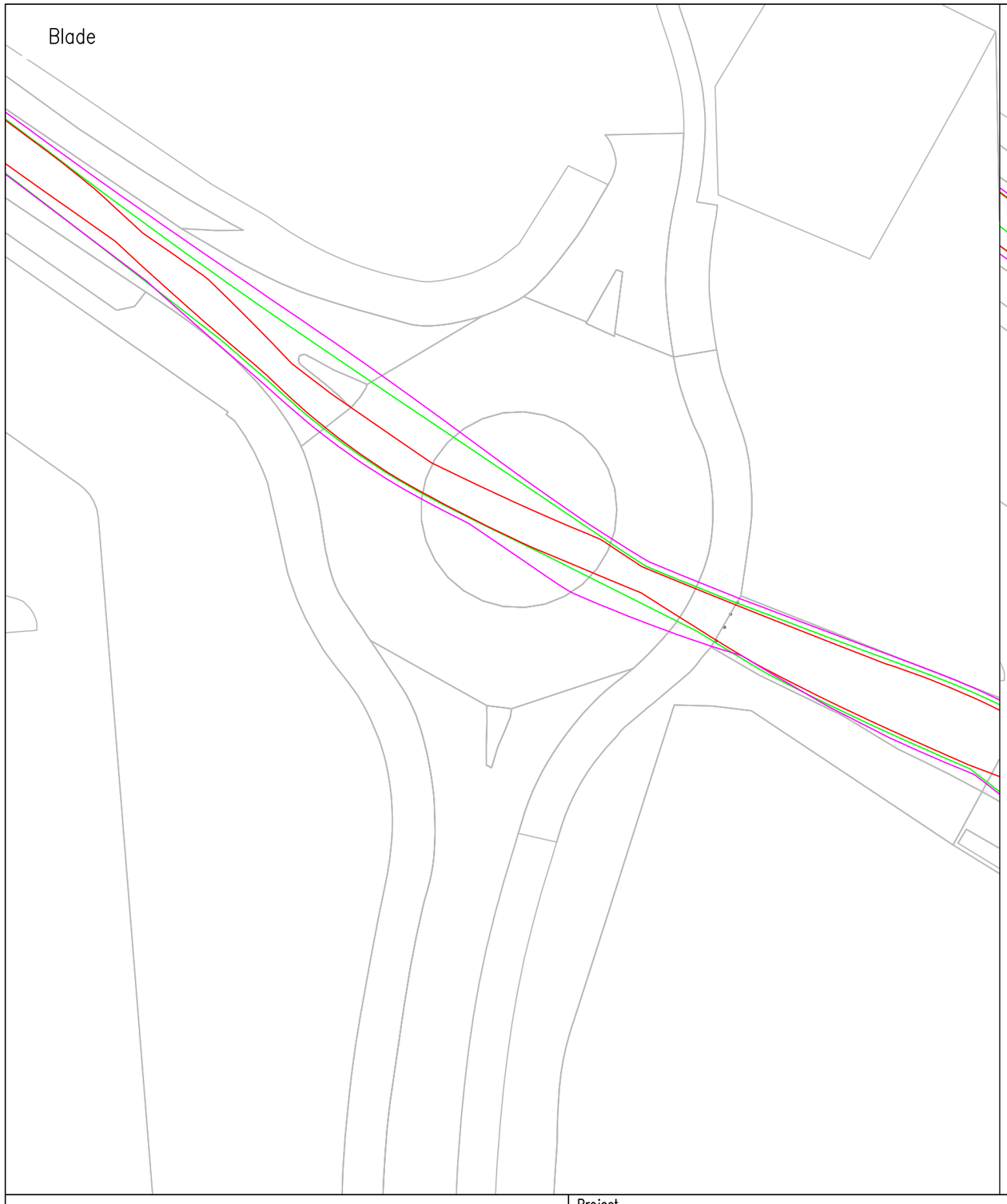
B857
A82
25
24
Renton
23

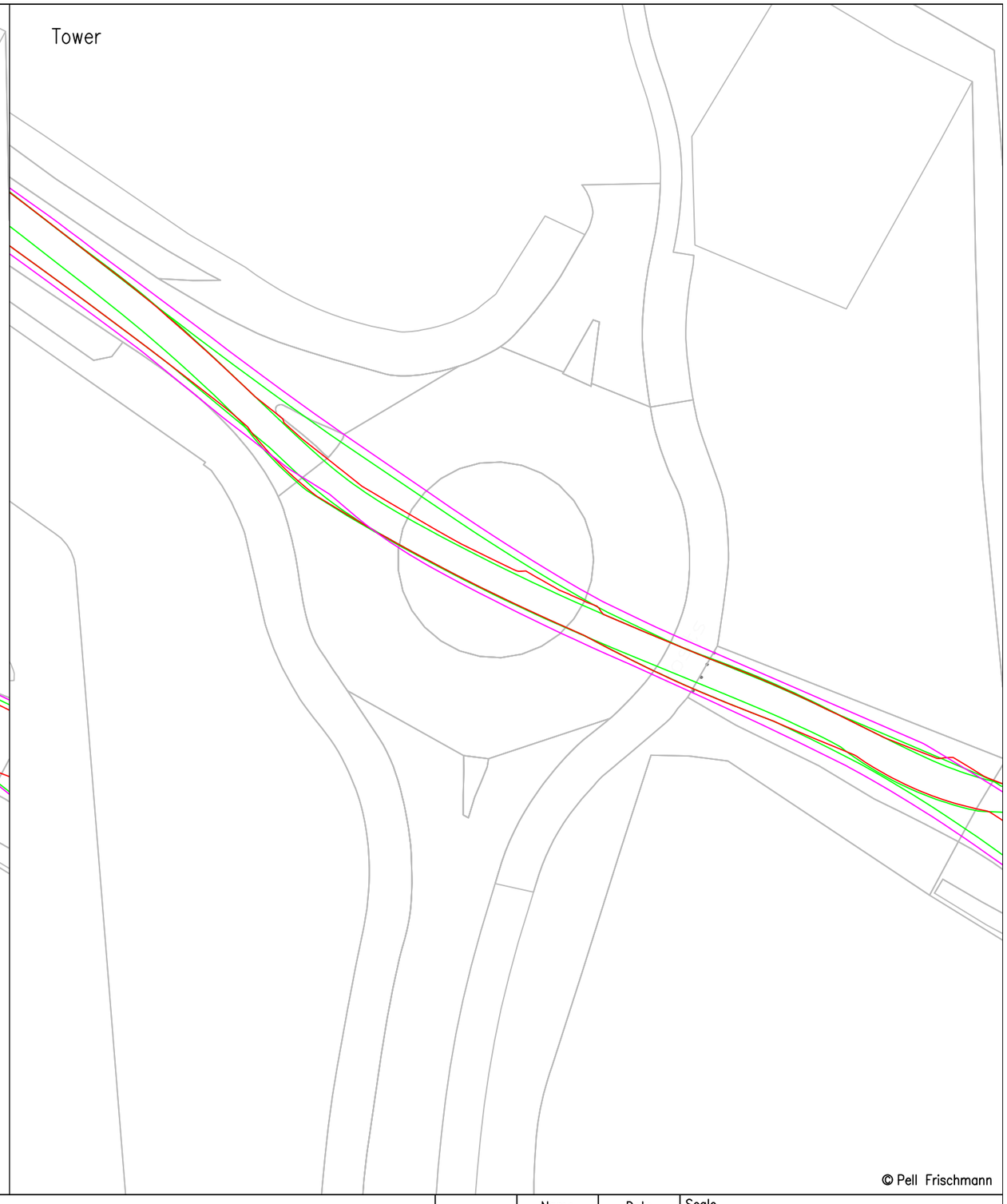

Balloch
Balloch Rd
A811
A813
Luss Rd
JAMESTOWN
N Main St
B857
Alexandria
Bank St
A82
36
35
34
33
32
31
30
29
28
27

Appendix B Swept Path Assessments

Blade



Tower



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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Port Exit – Kings Inch Drive Roundabout 1

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		1

Scale: 1:500 @ A3

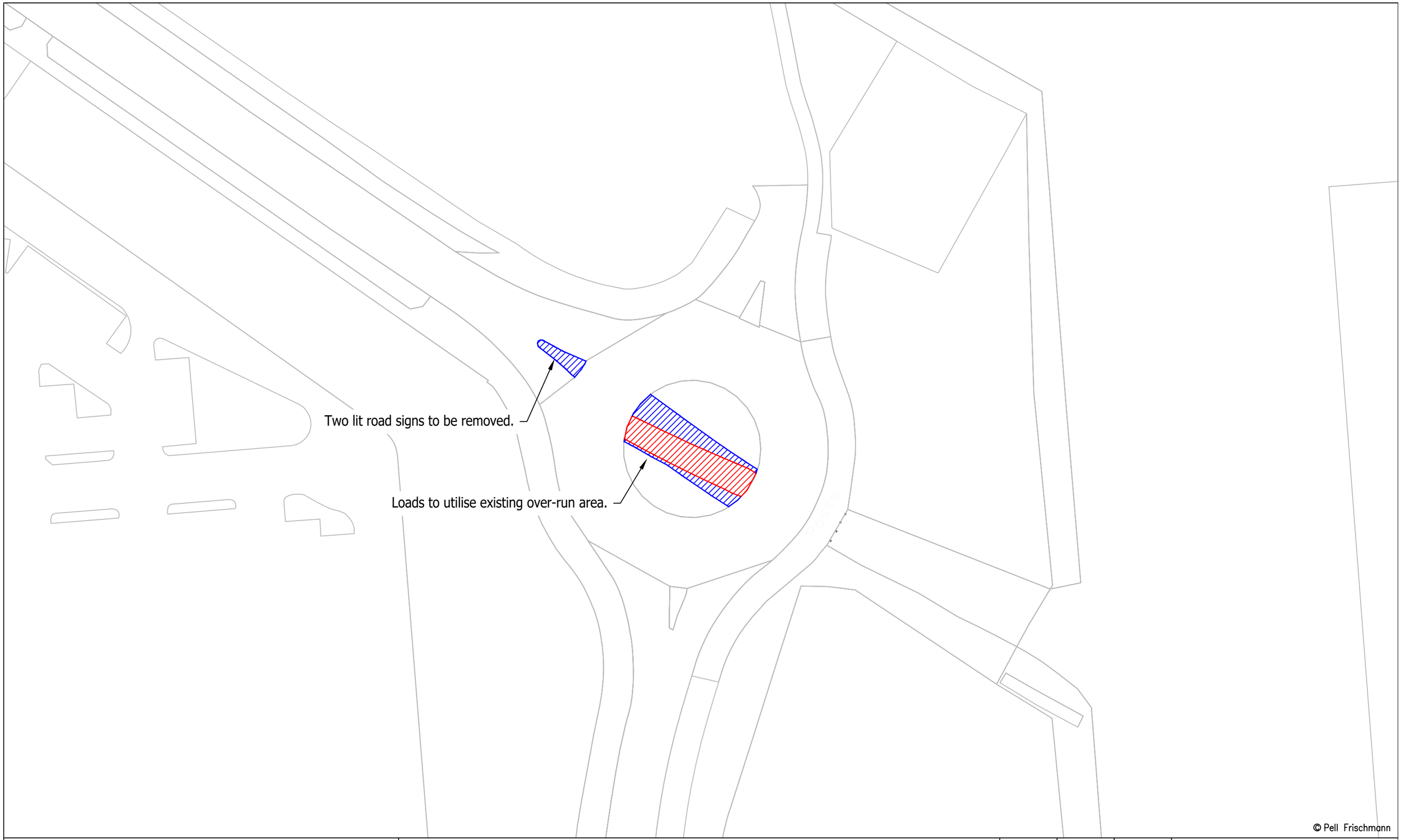
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK01

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Kings Inch Drive Roundabout 1

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		1

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK01A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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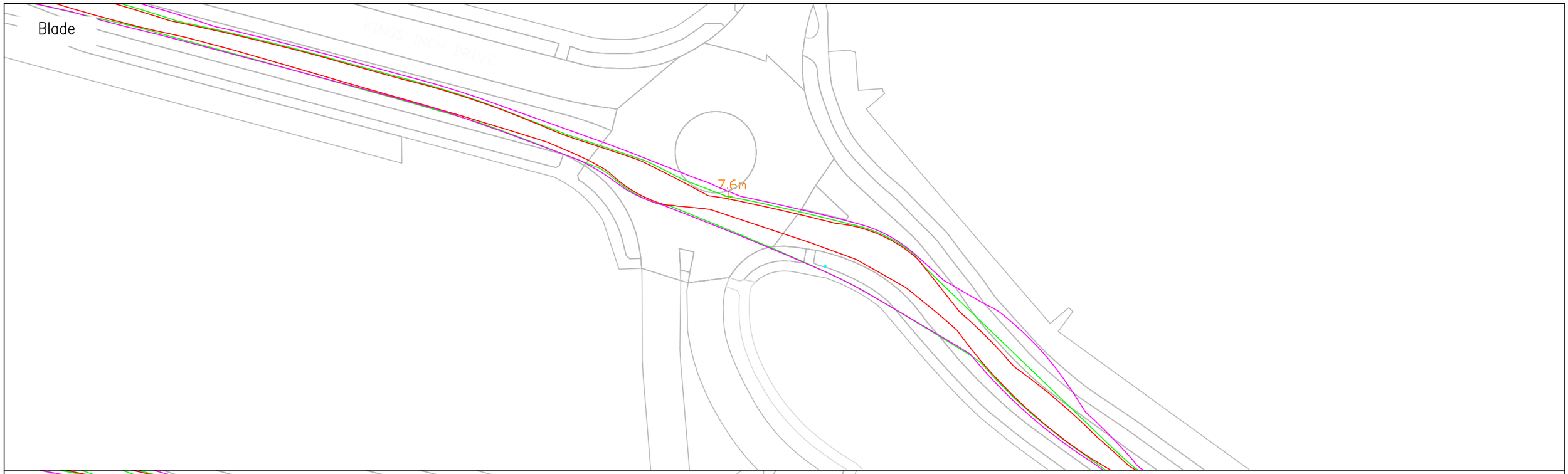

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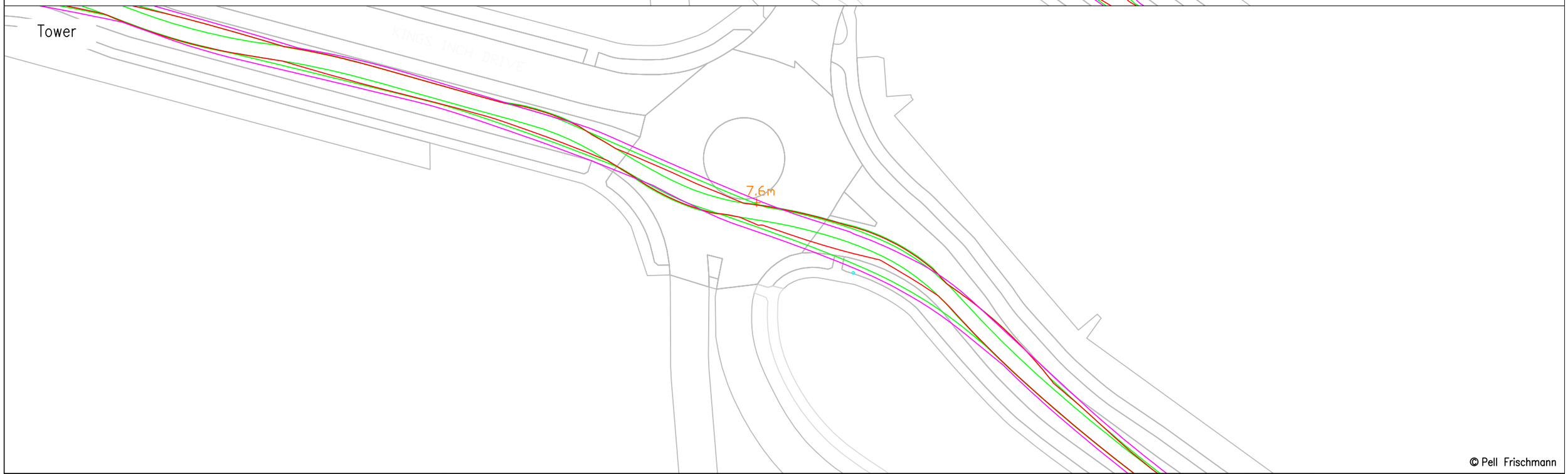

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Kings Inch Drive IKEA Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		2

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK02

Notes:
1. All mitigation is subject to confirmation through a test run.
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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Kings Inch Drive IKEA Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		2

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK02A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

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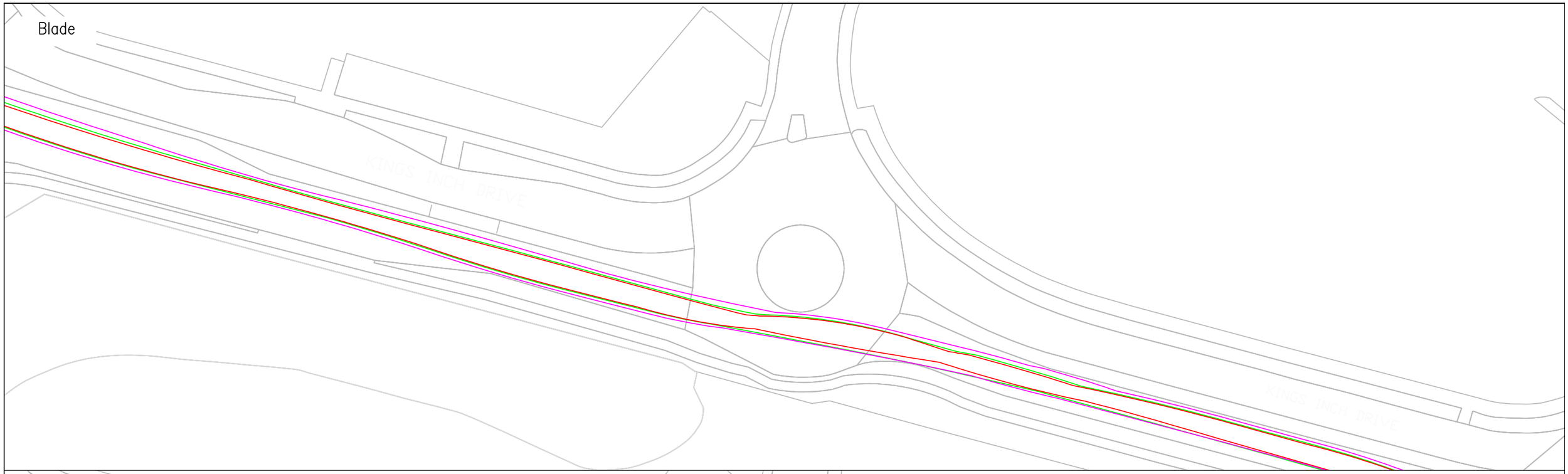

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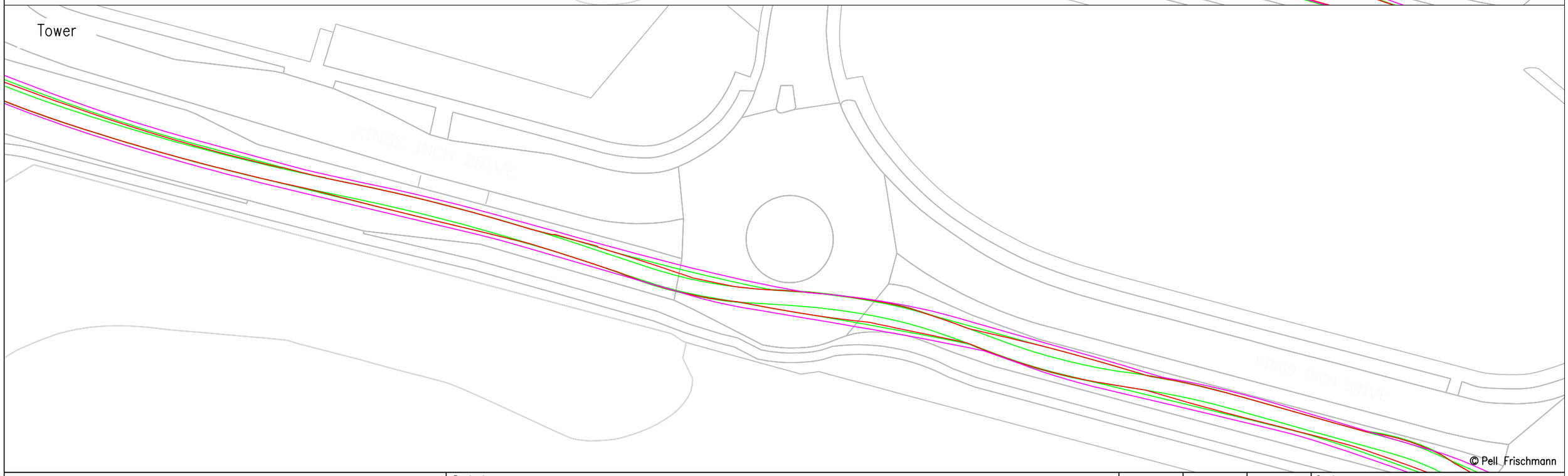

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Braehead Shopping Centre Roundabout

NO MITIGATION REQUIRED

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		3

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK03

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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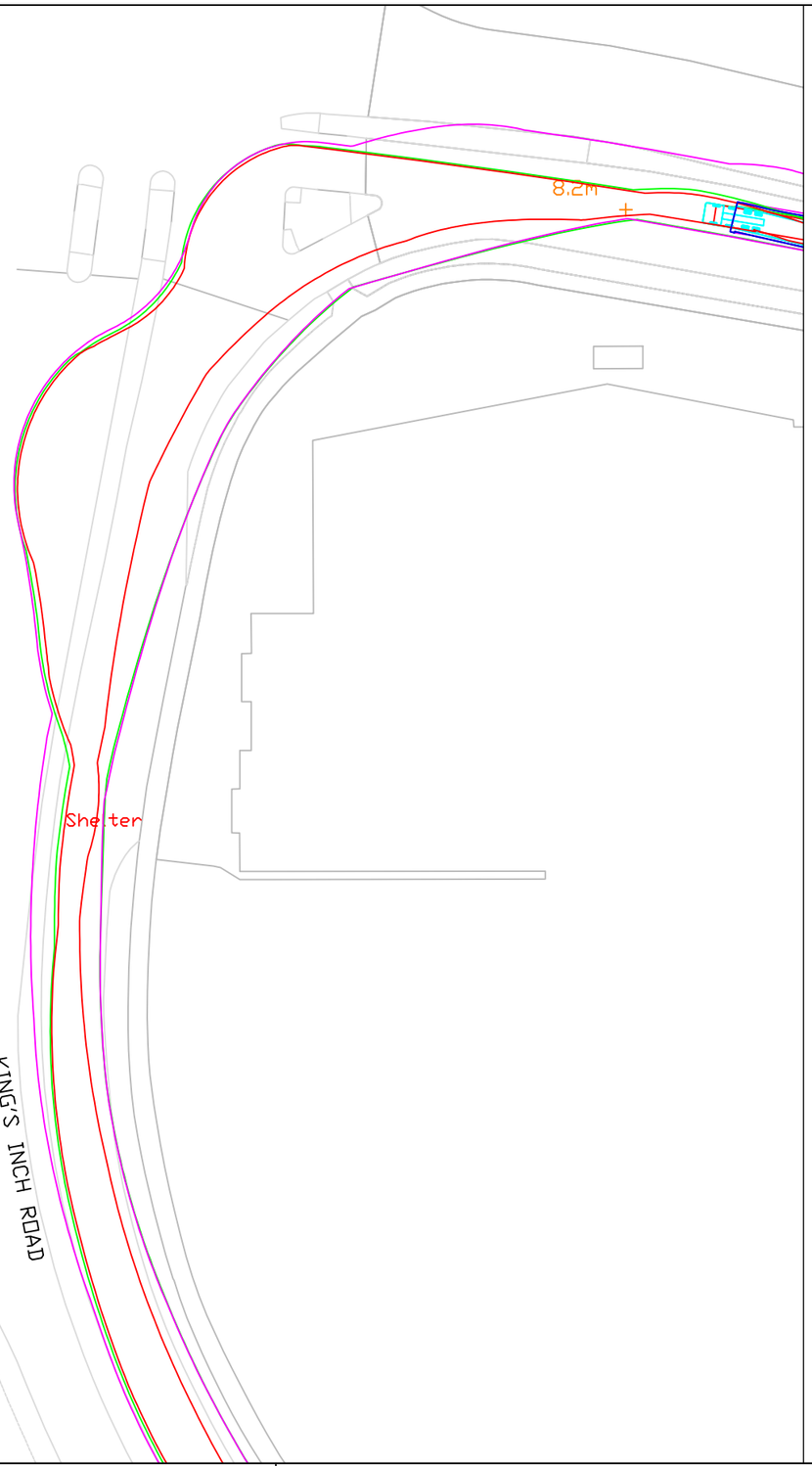

Tower

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Kings Inch Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		5

Scale: 1:750 @ A3

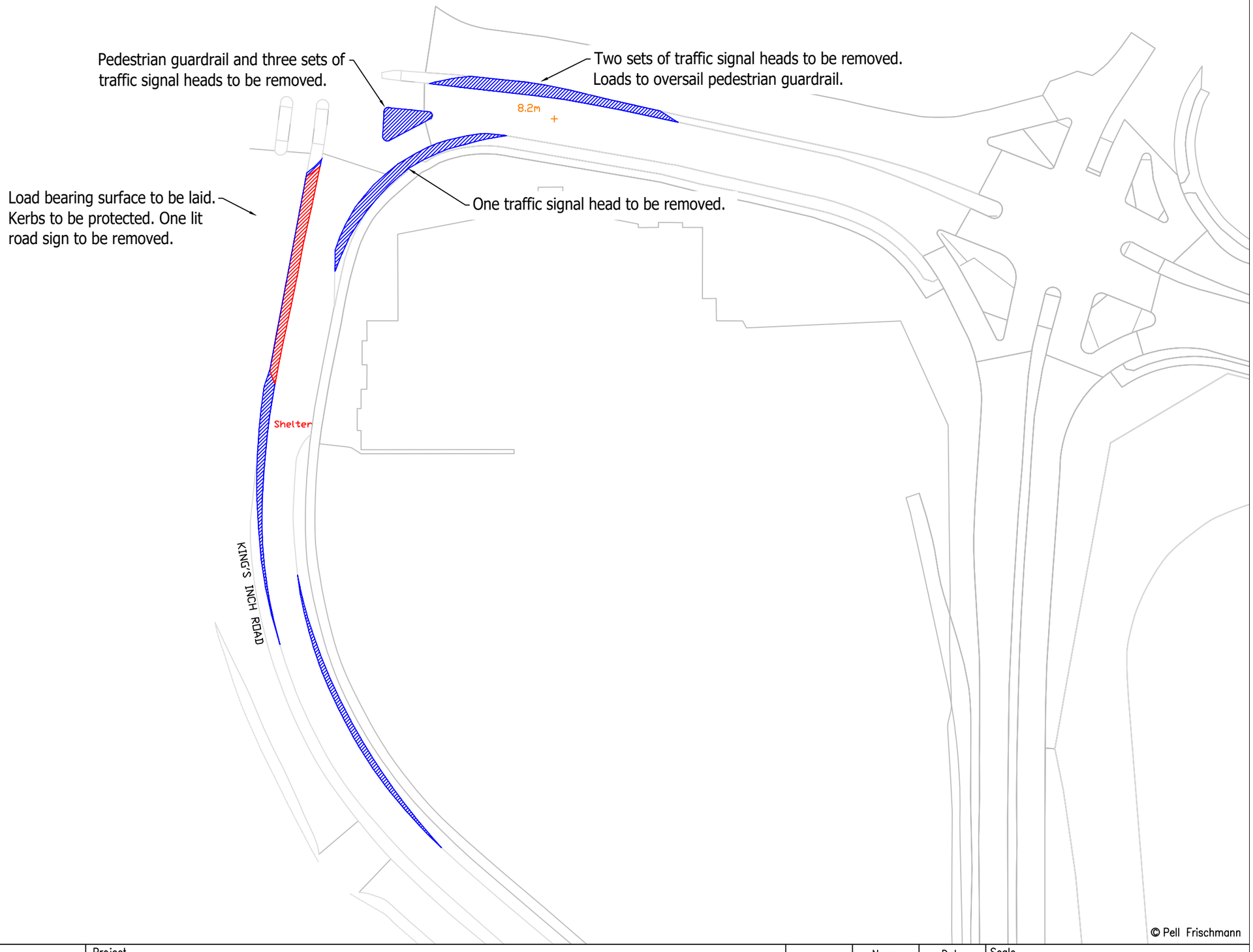
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK04

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Kings Inch Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		5

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK04A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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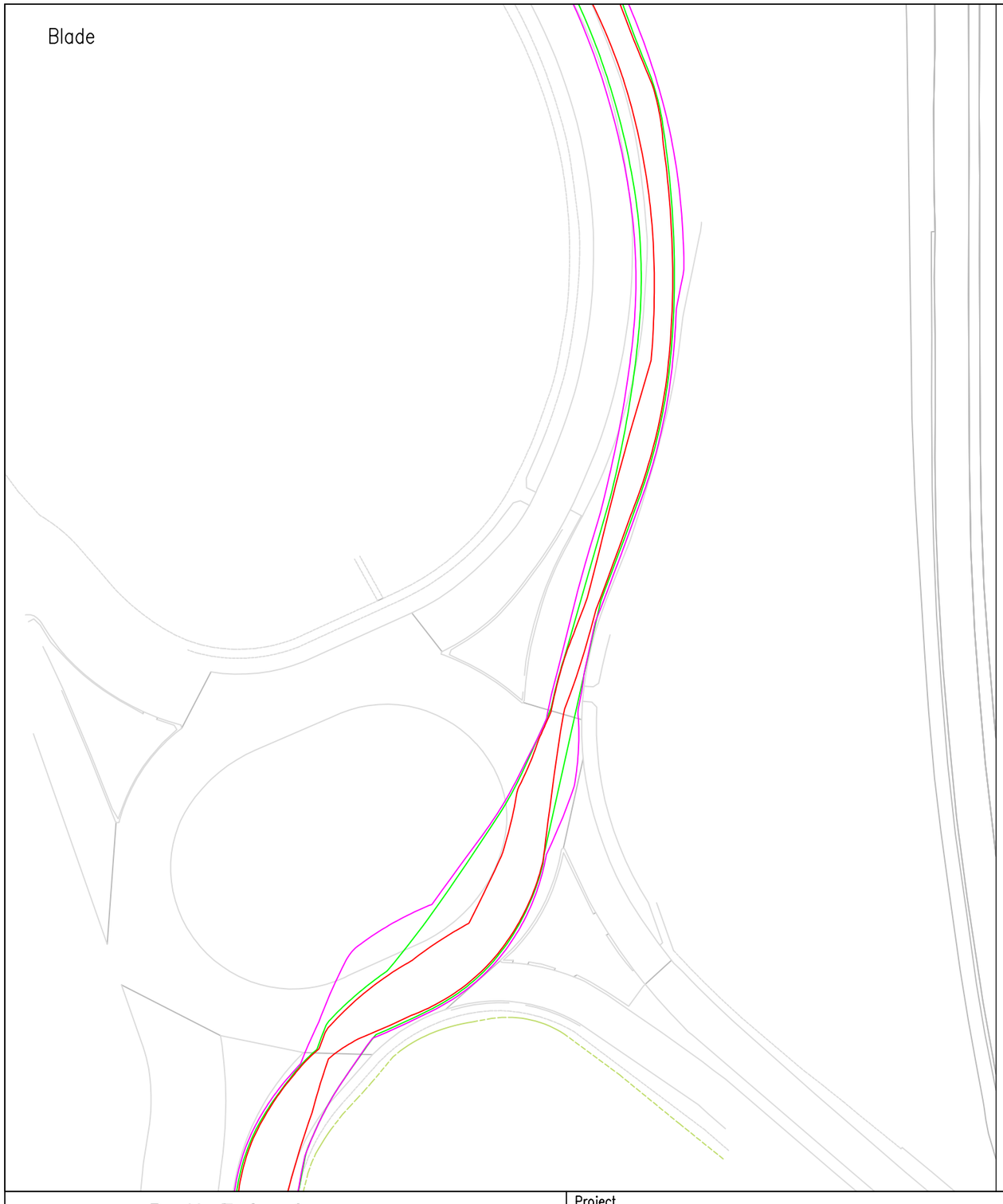

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Client: Coriolis

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A8 Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		6 & 7

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK05

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A8 Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		6 & 7

Scale: 1:1250 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK05A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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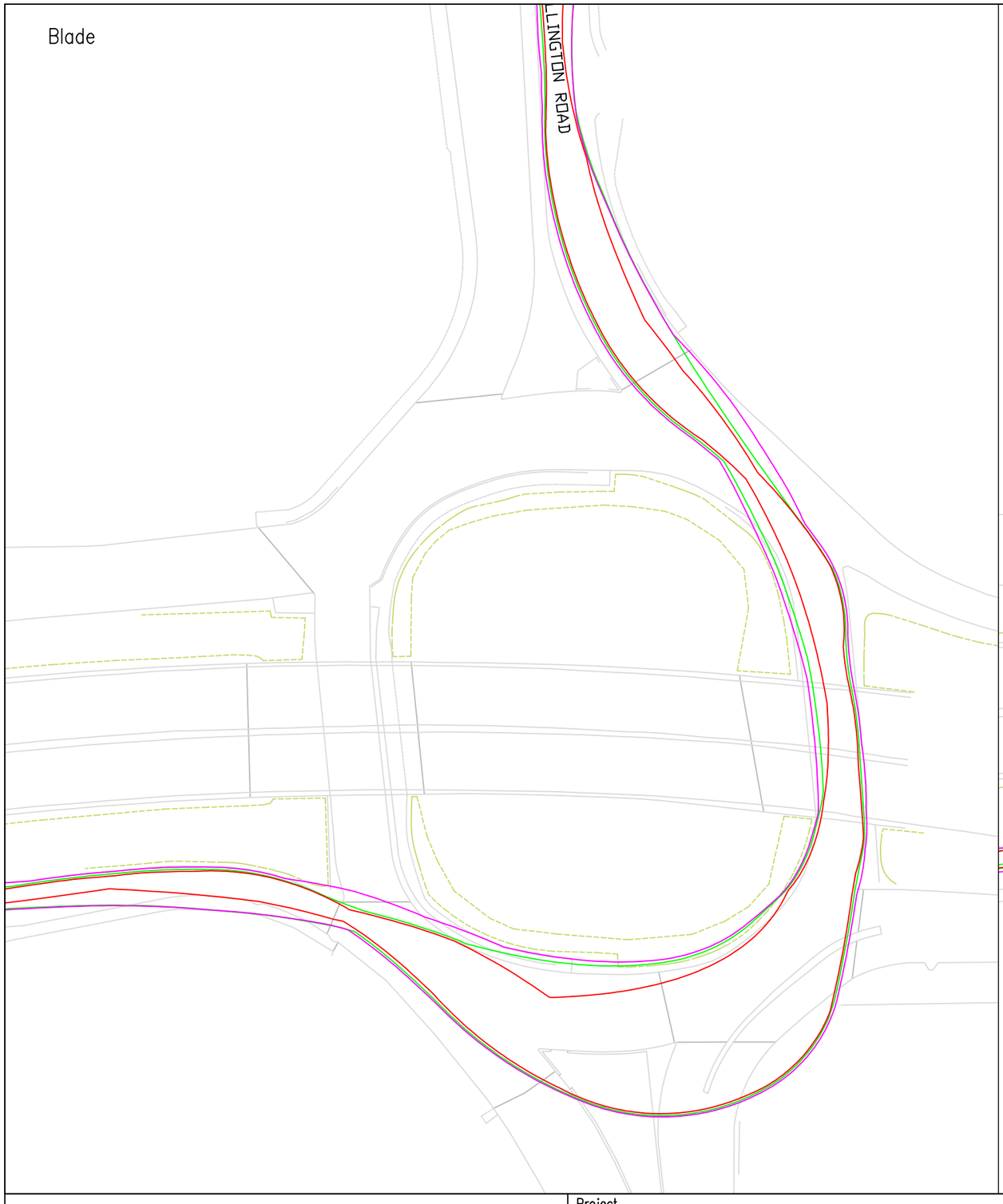

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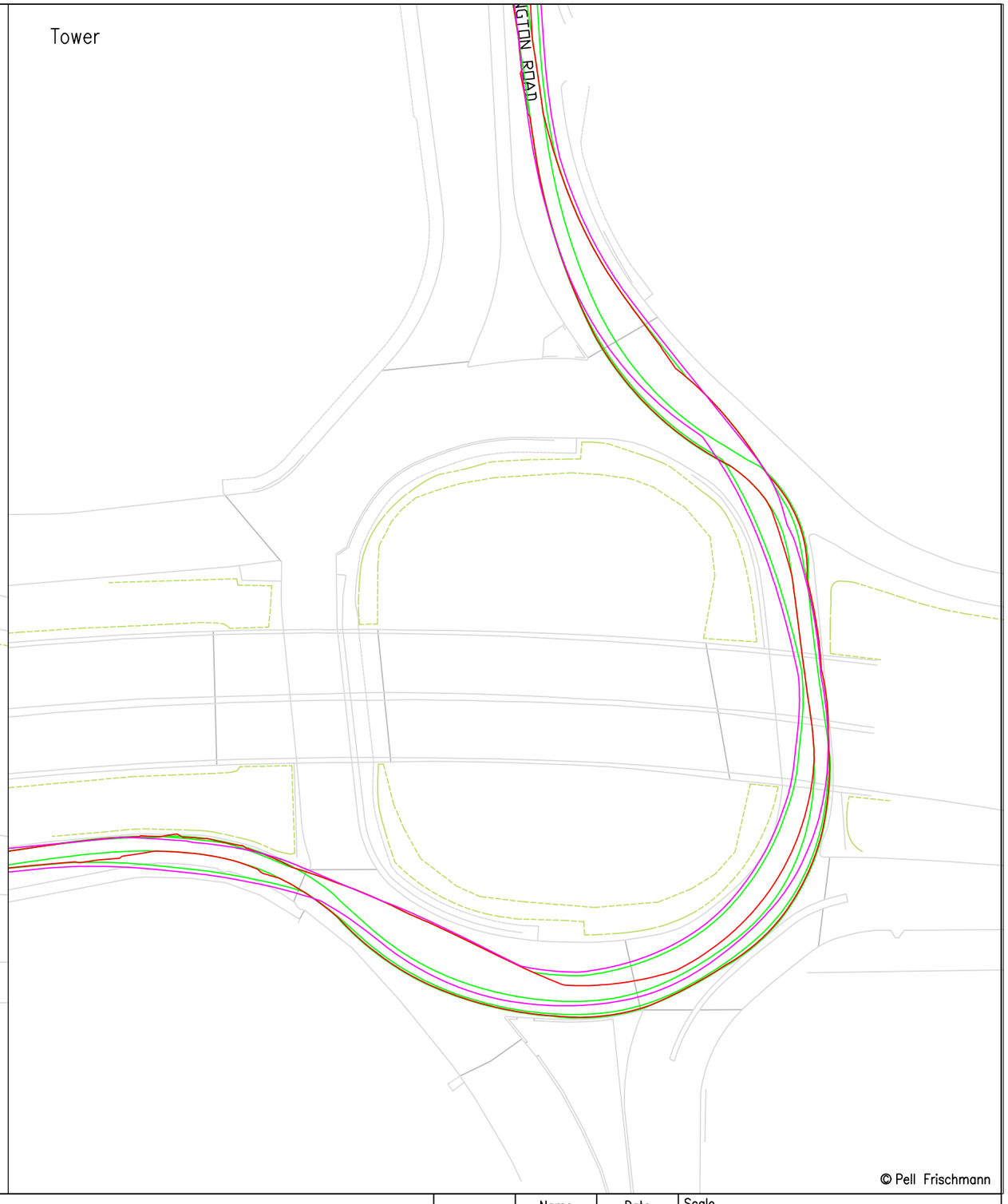

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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: M8 Junction 26 Interchange

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		8

Scale: 1:1000 @ A3

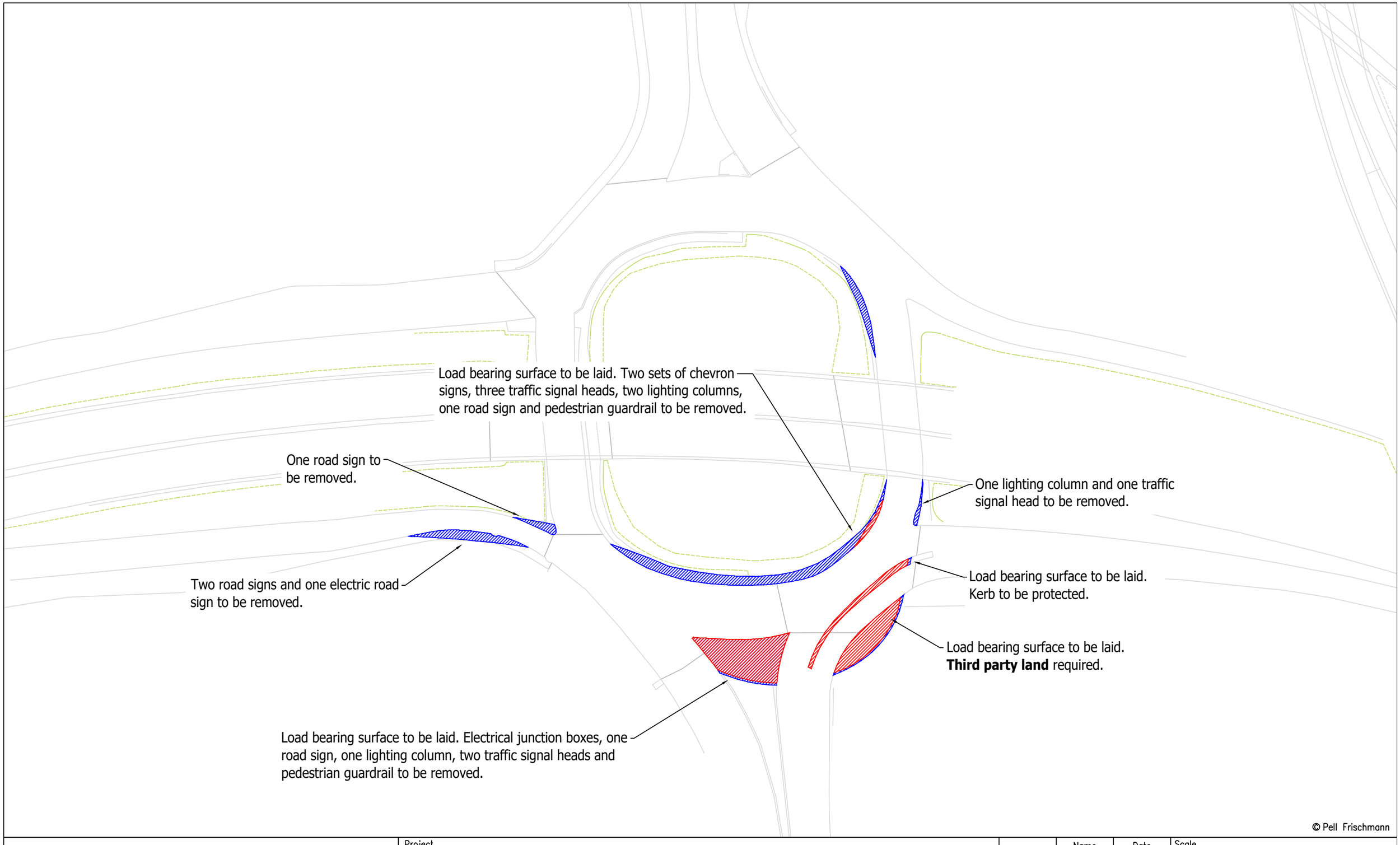
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK06

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: M8 Junction 26 Interchange

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		8

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK06A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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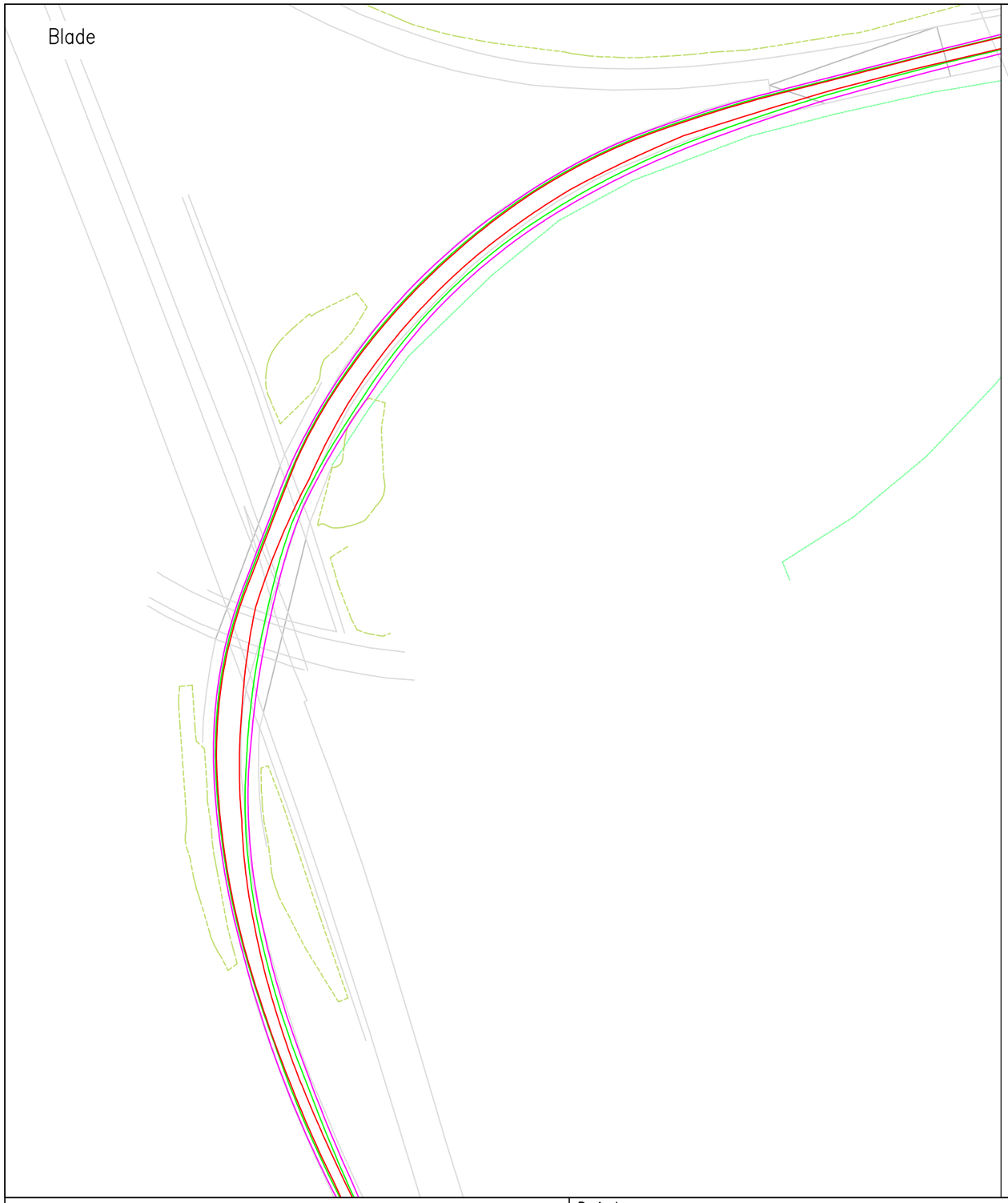

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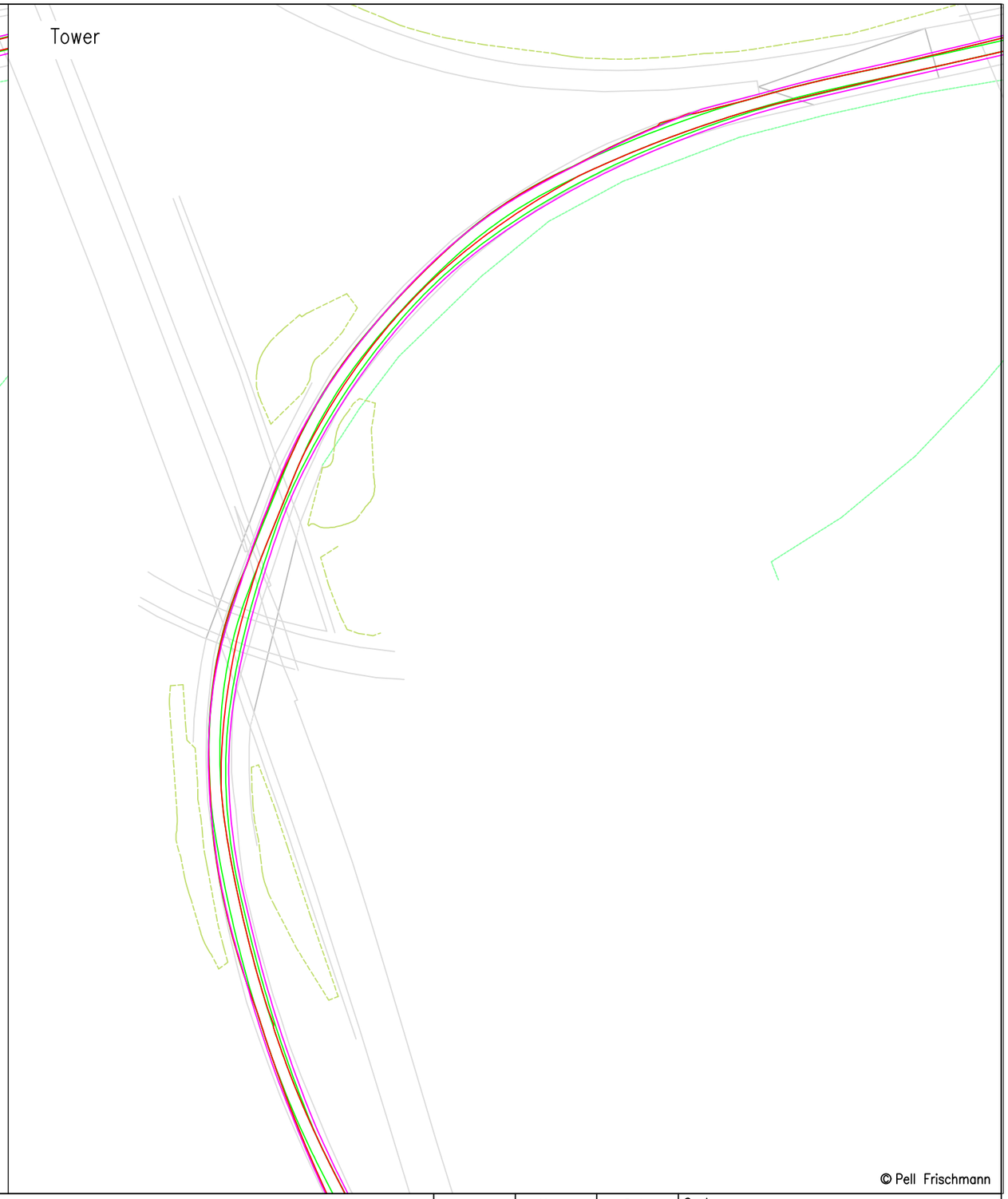

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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: M8 / M898 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		9

Scale: 1:1250 @ A3

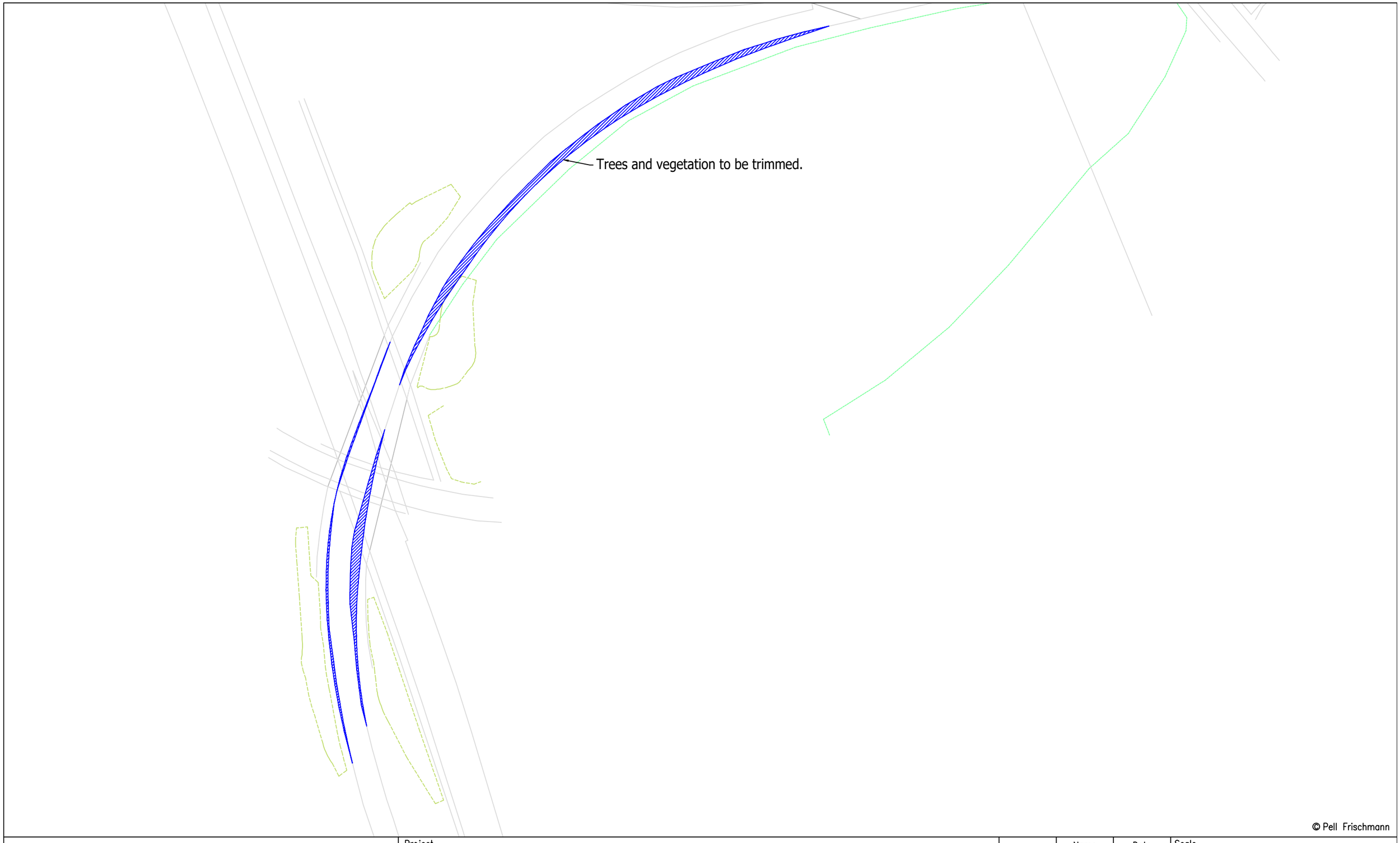
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK07

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: M8 / M898 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		9

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

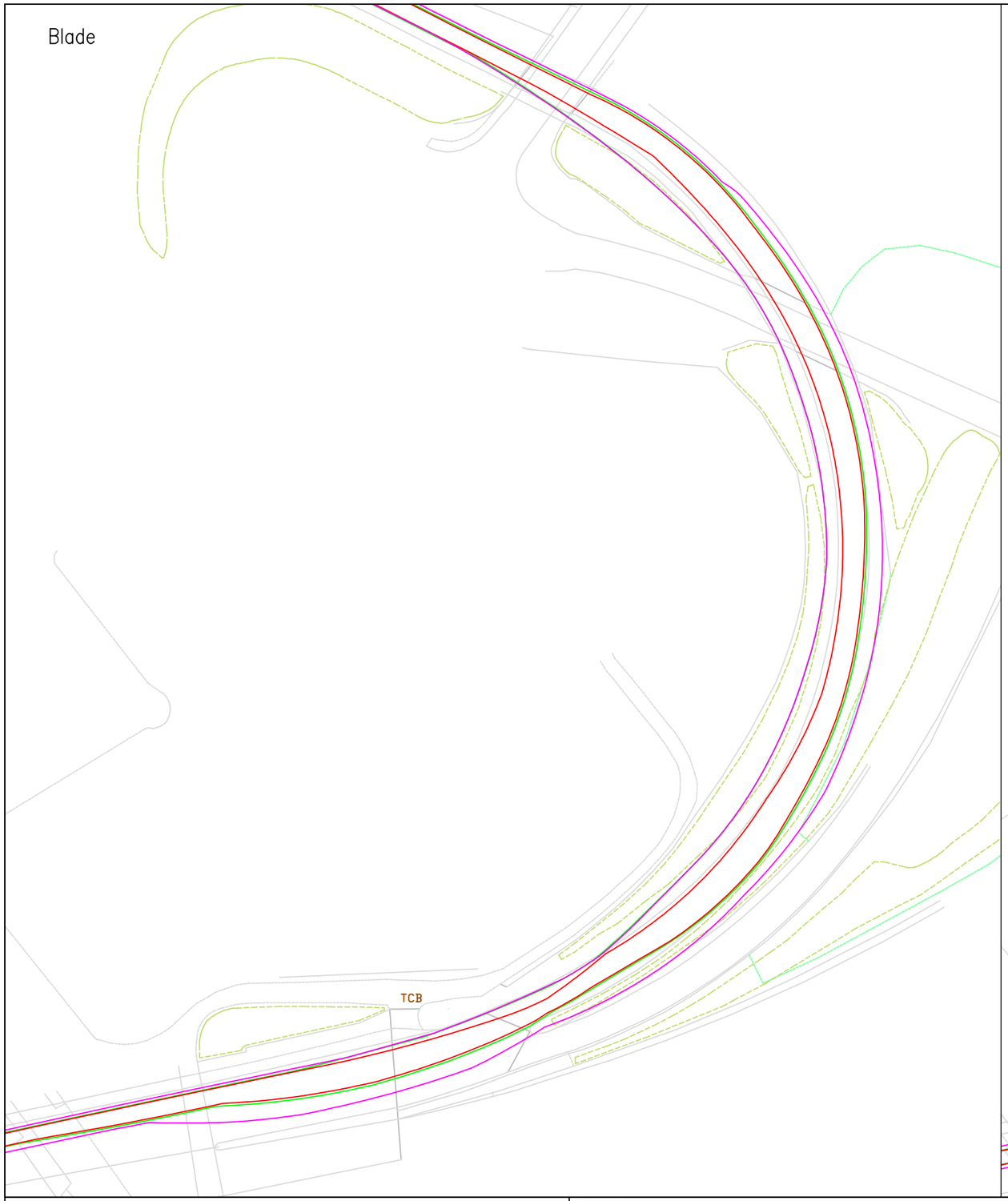
Drawing Status: Draft

Drawing No.: SK07A

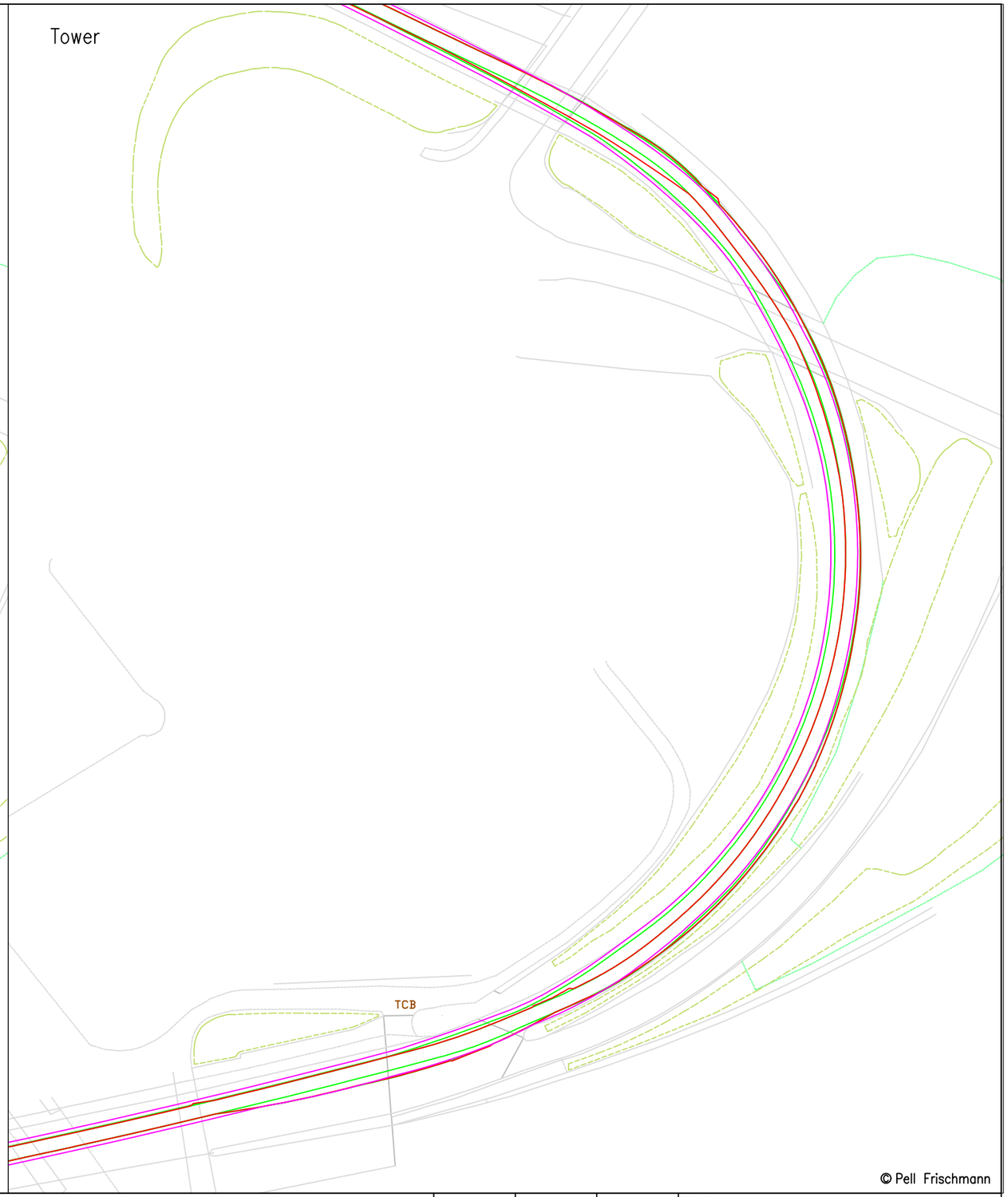
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A898 / A82 Merge

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		11

Scale: 1:1000 @ A3

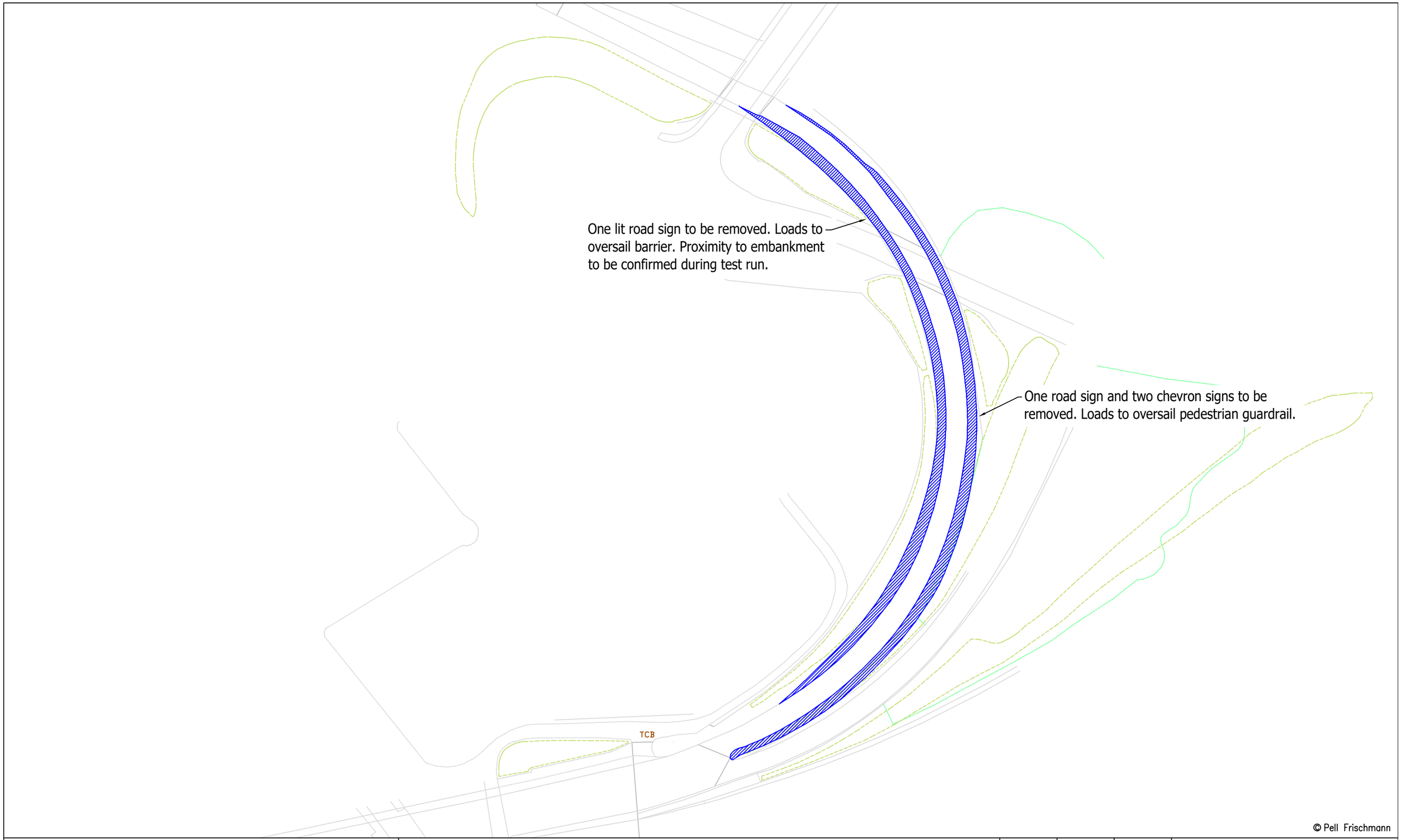
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK08

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A898 / A82 Merge

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		11

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

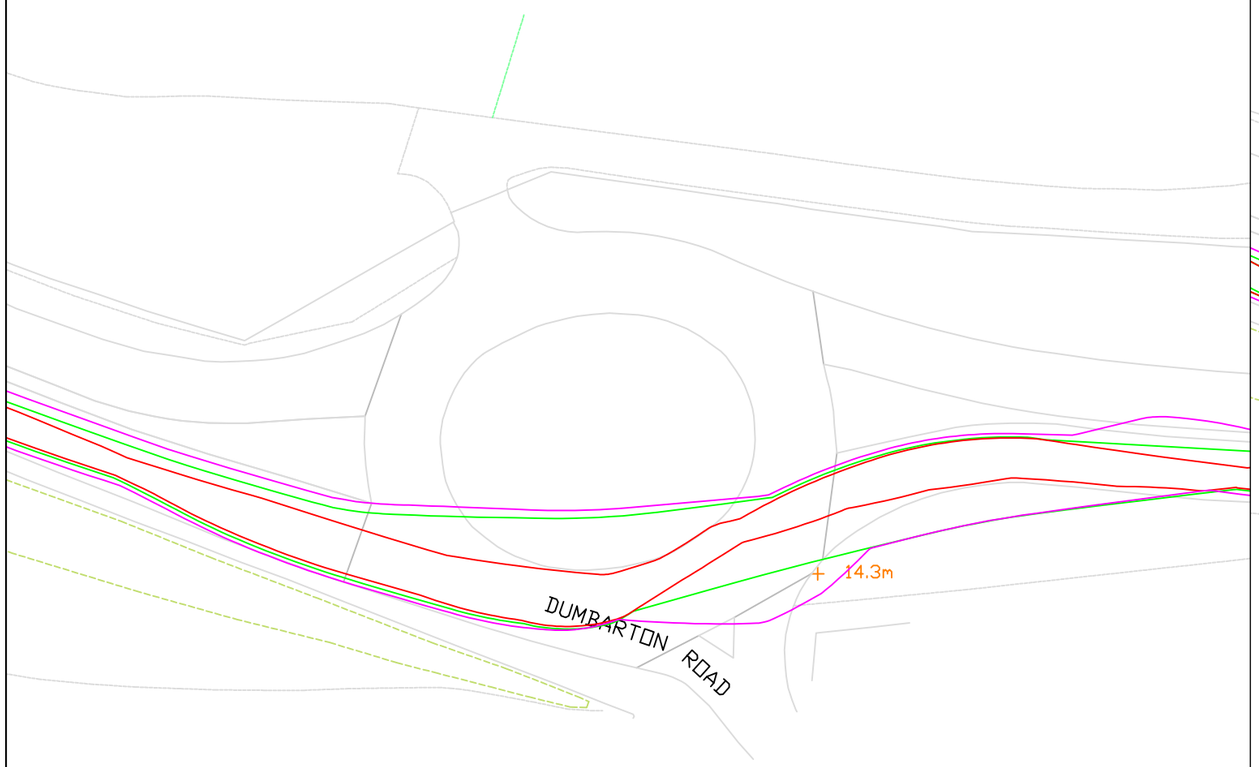
Drawing Status: Draft

Drawing No.: SK08A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



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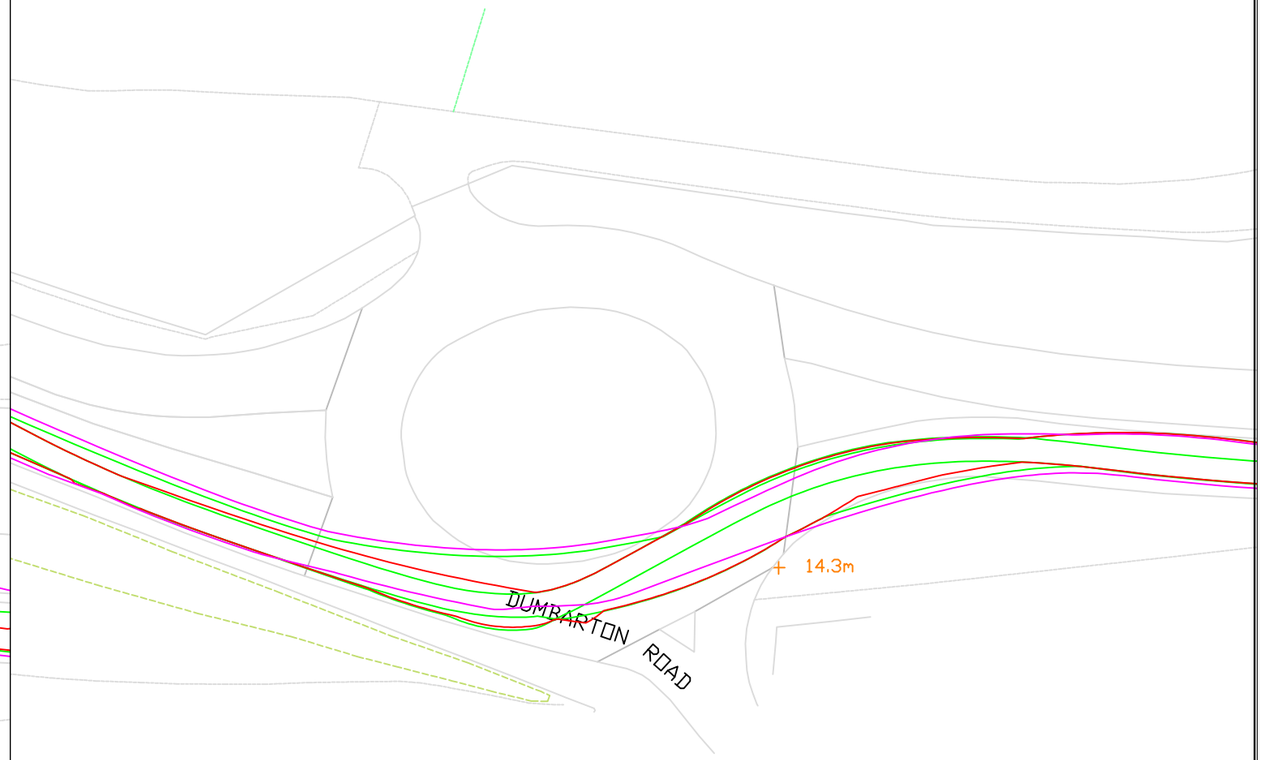

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 / Dumbarton Road Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		12

Scale: Custom @ A3

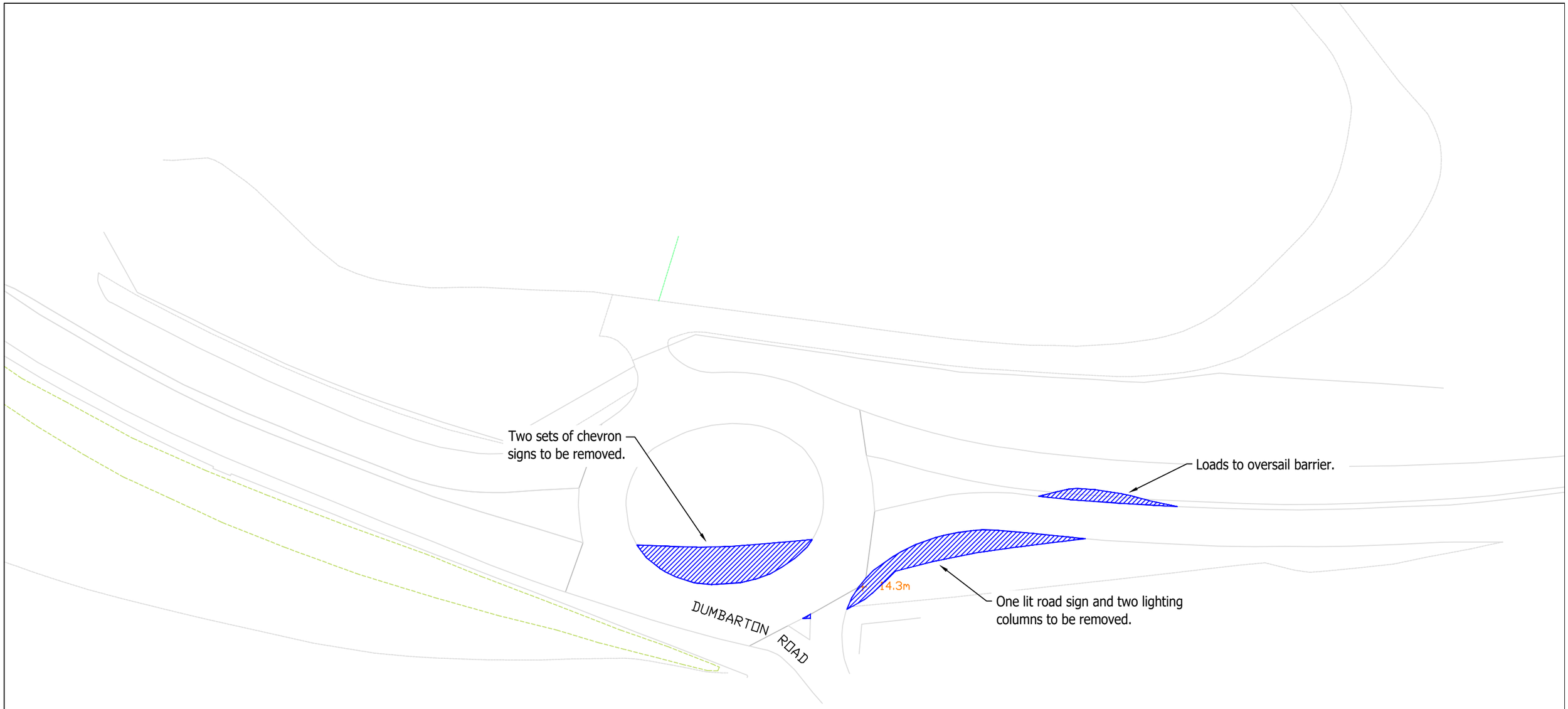
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK09

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 / Dumbarton Road Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		12

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

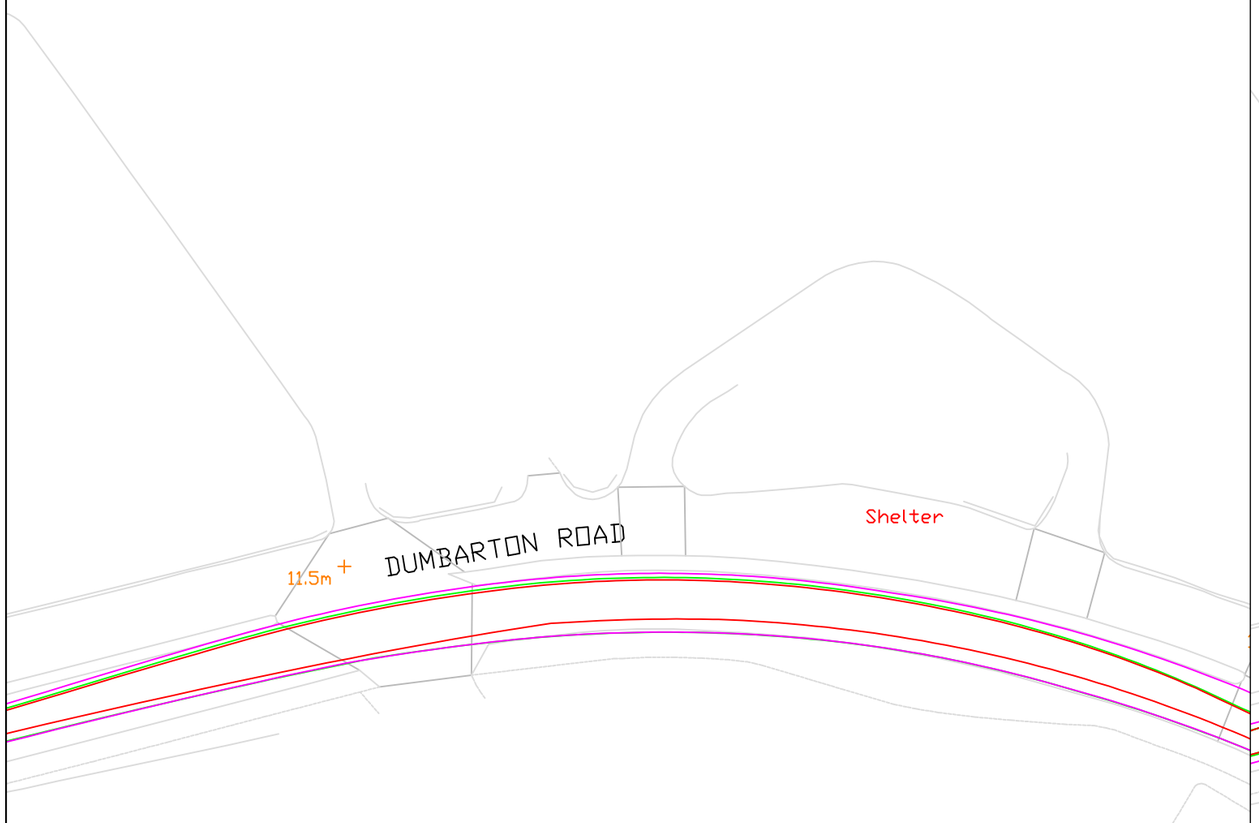
Drawing Status: Draft

Drawing No.: SK09A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower

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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Dumbarton Road Bend

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		13

Scale: 1:750 @ A3

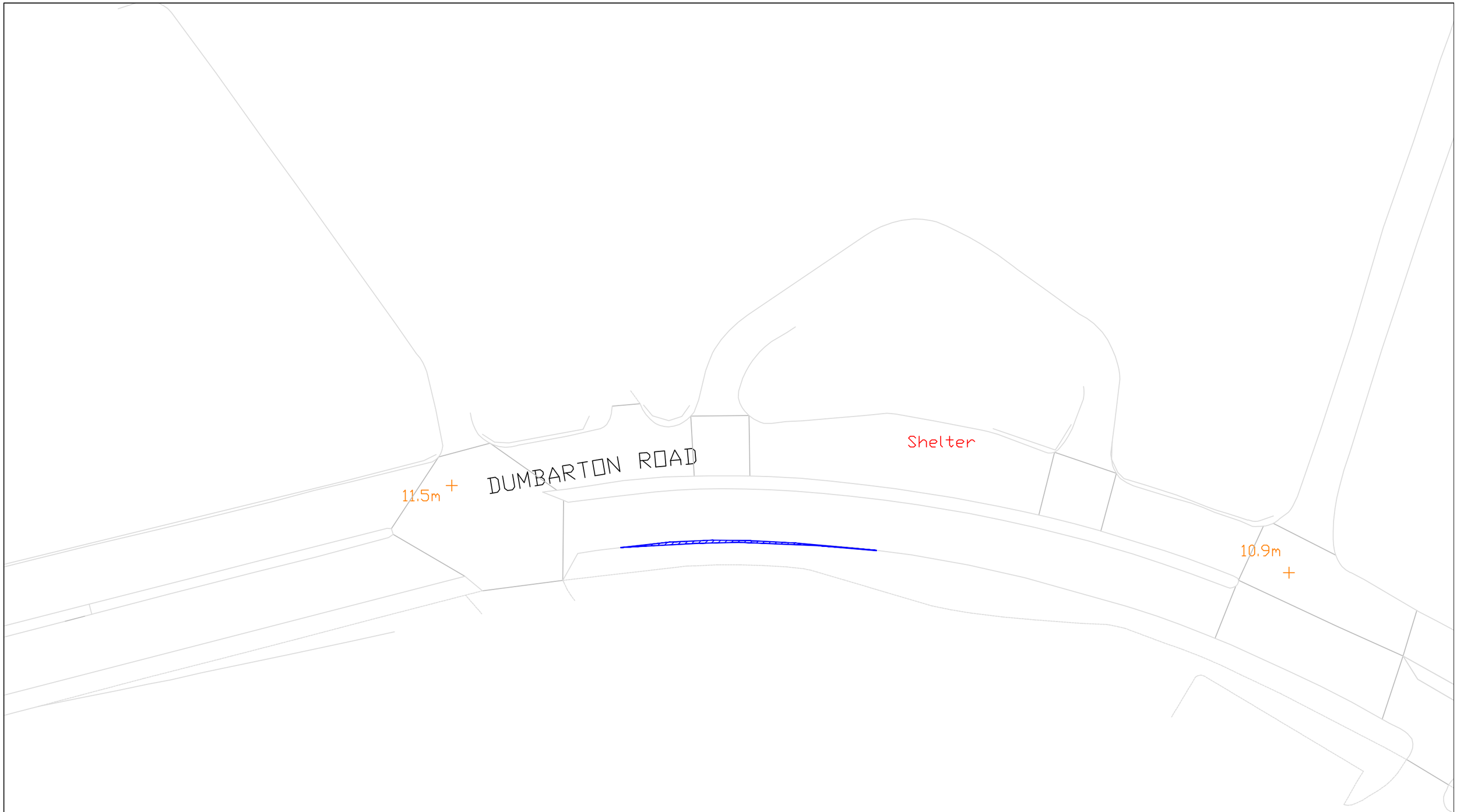
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK10

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Dumbarton Road Bend

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		13

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

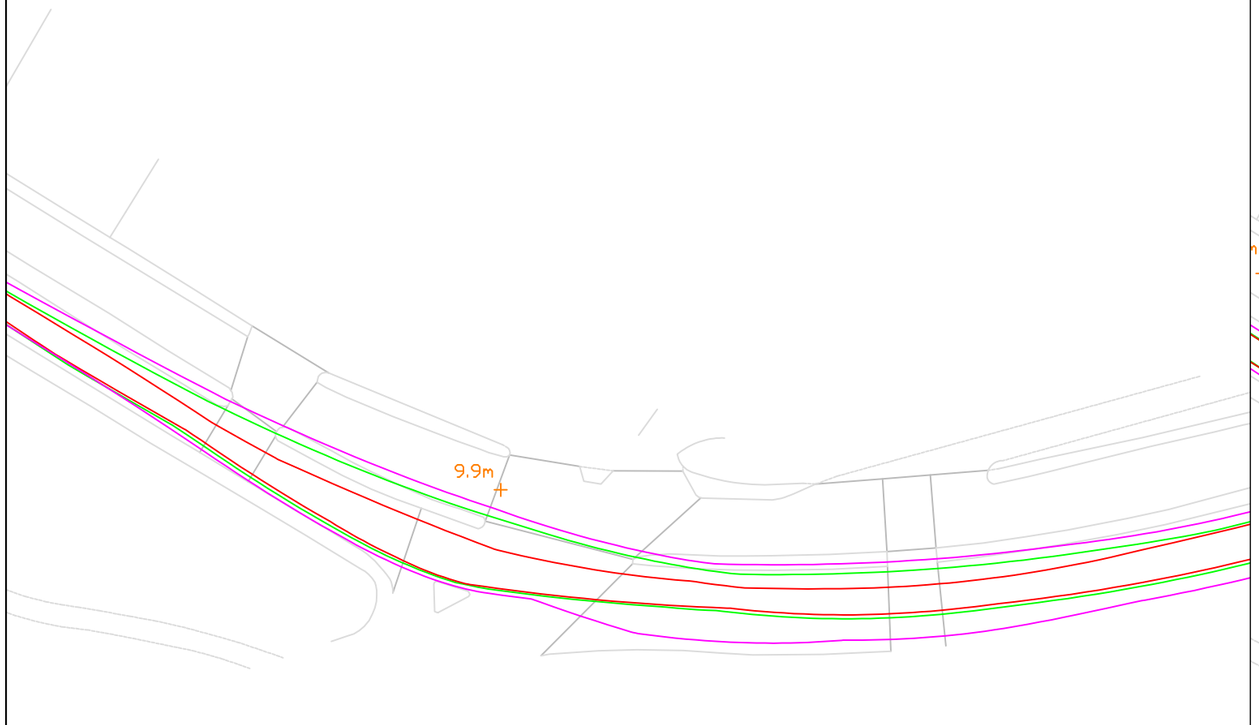
Drawing Status: Draft

Drawing No.: SK10A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



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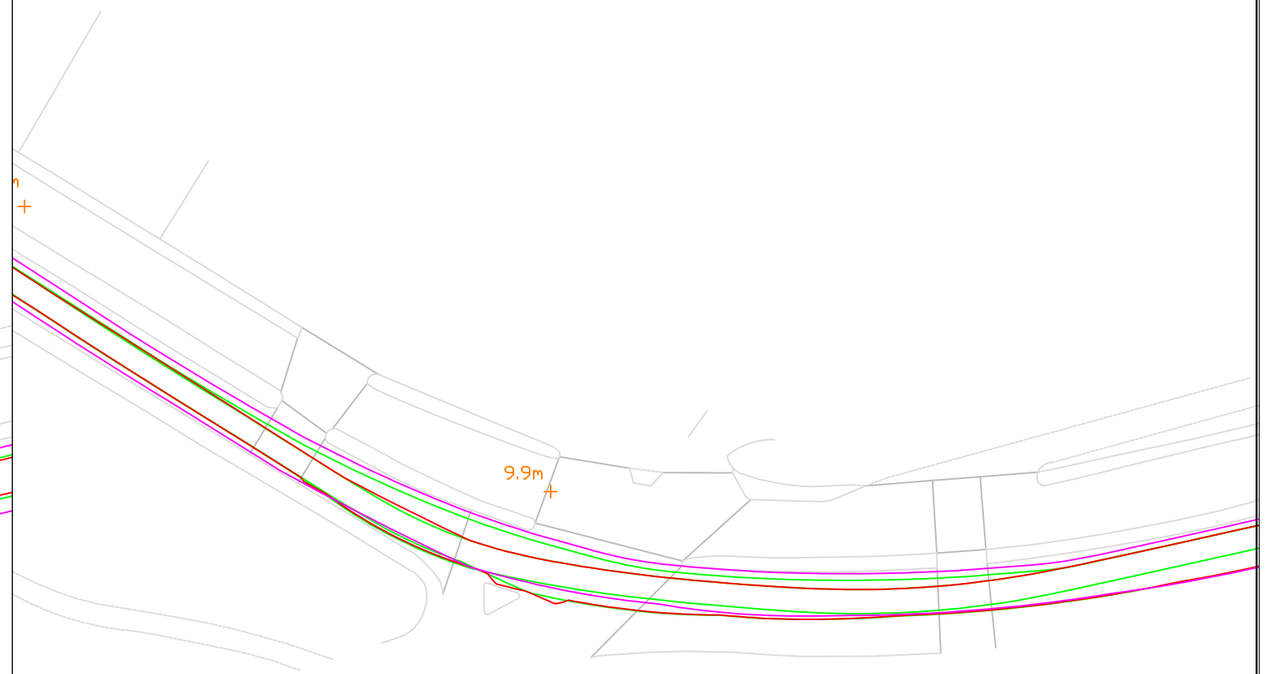

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 / A814 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		14

Scale: 1:750 @ A3

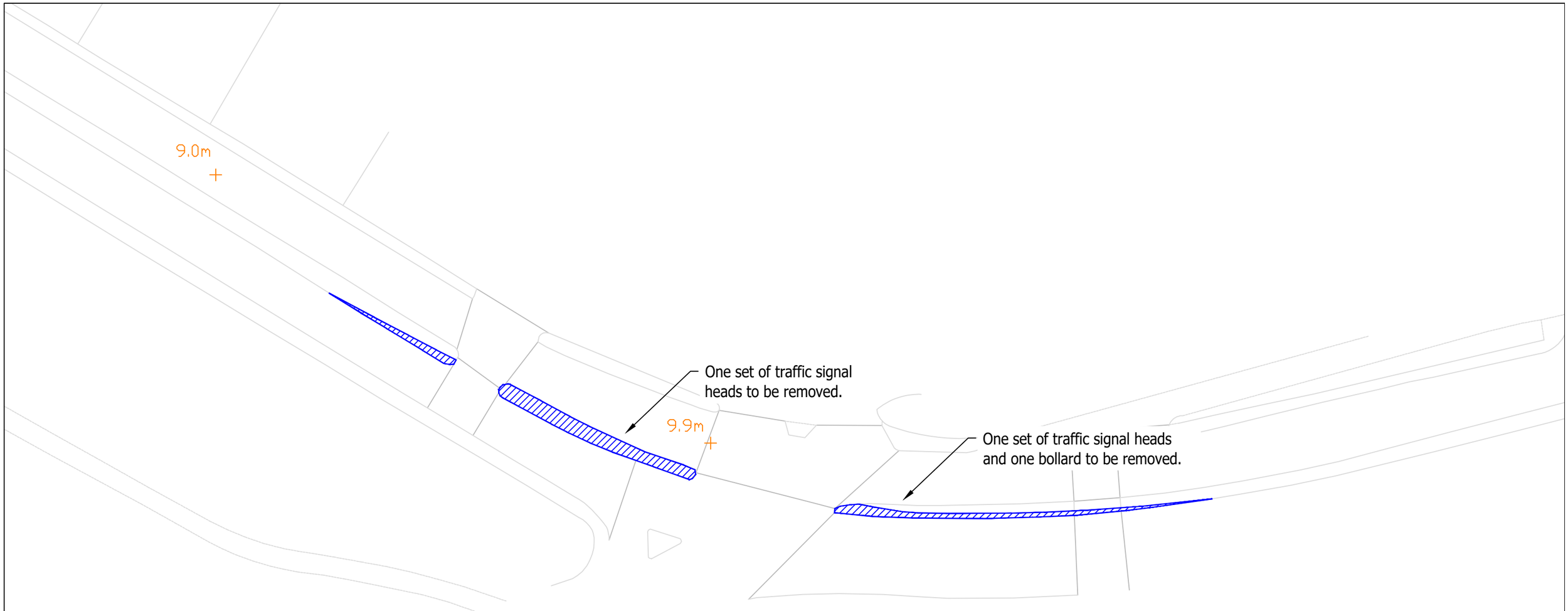
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK11

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 / A814 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		14

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

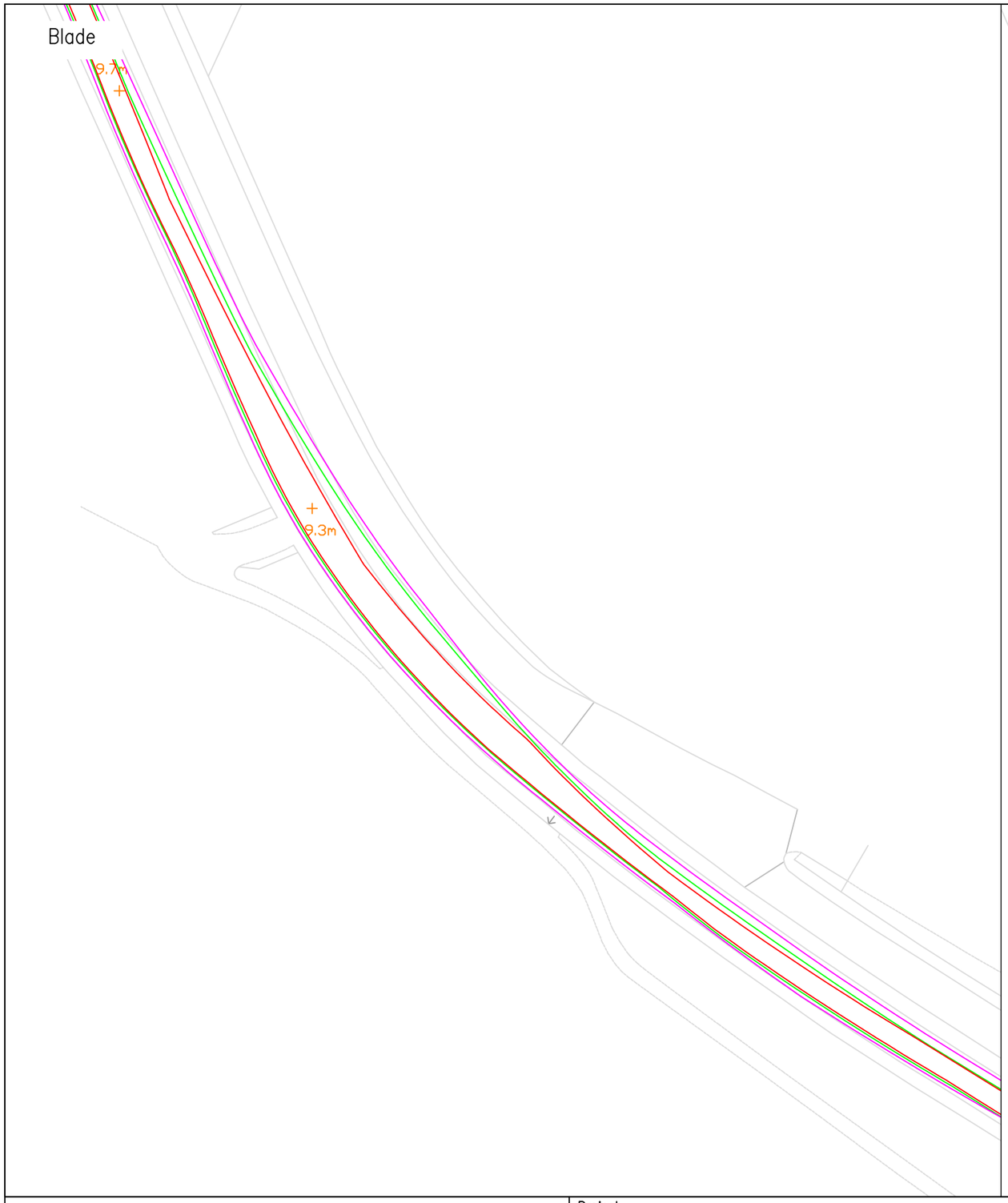
Drawing Status: Draft

Drawing No.: SK11A

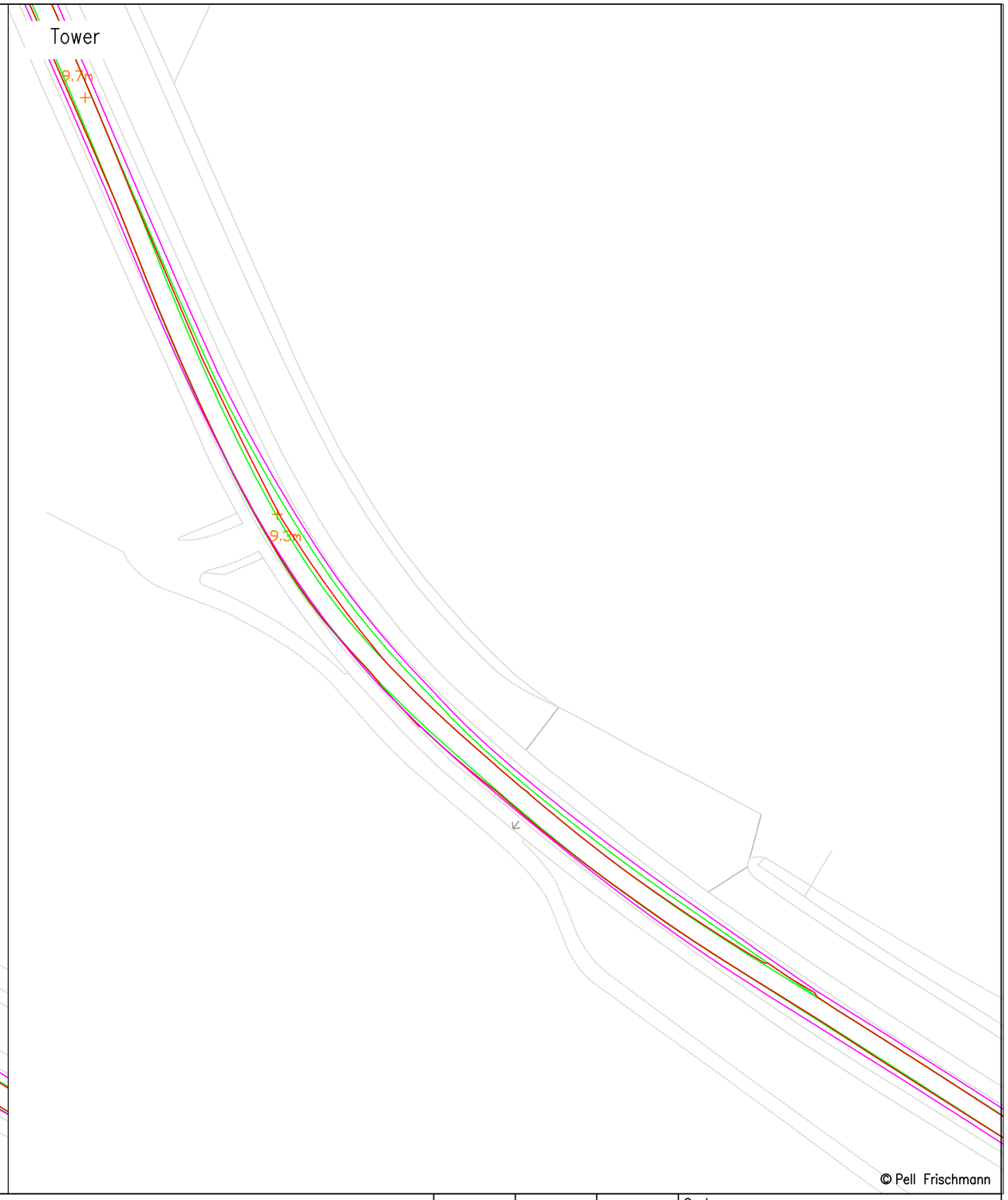
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Stirling Road Bend

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		15

Scale: 1:750 @ A3

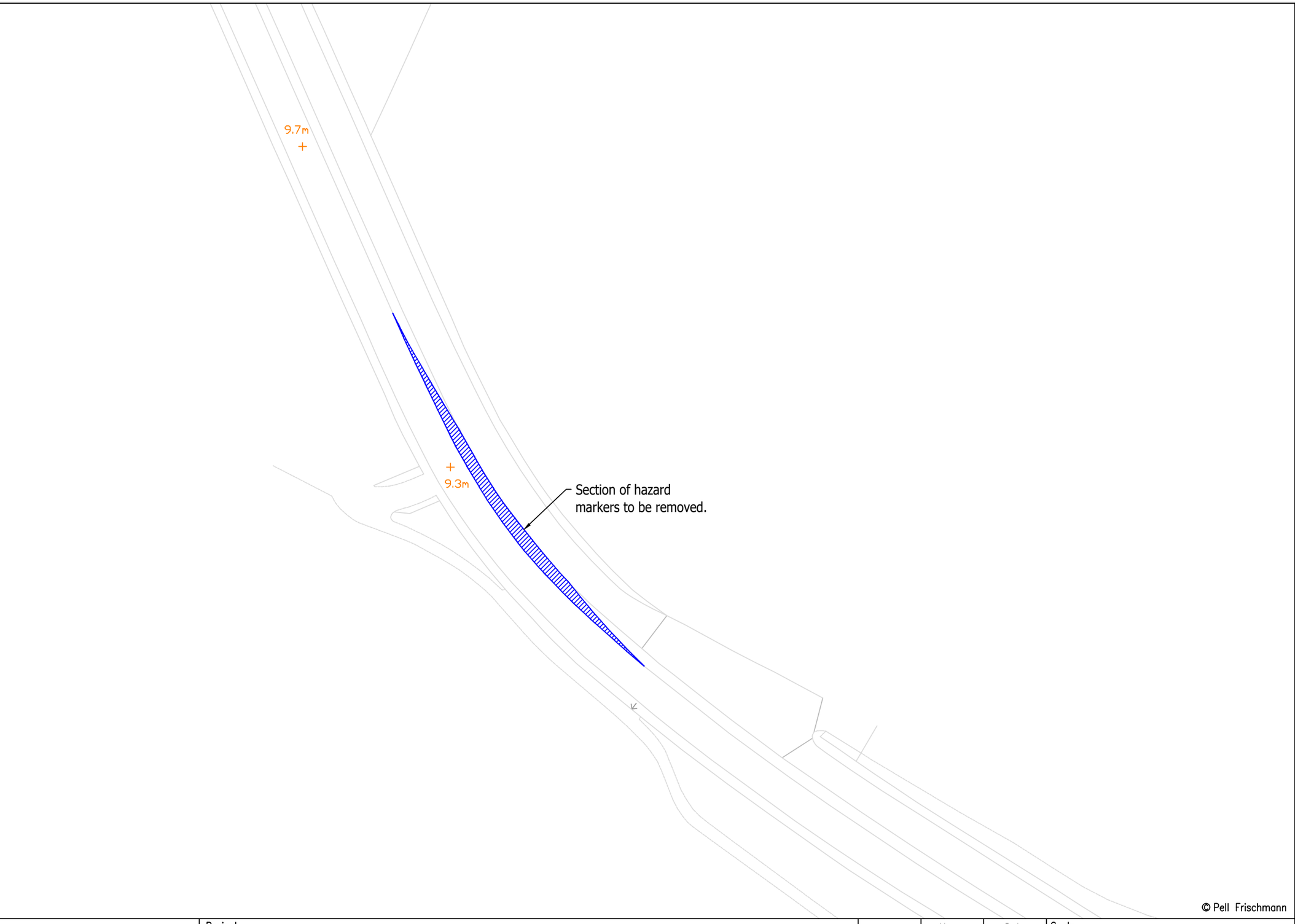
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK12

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Stirling Road Bend

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		15

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

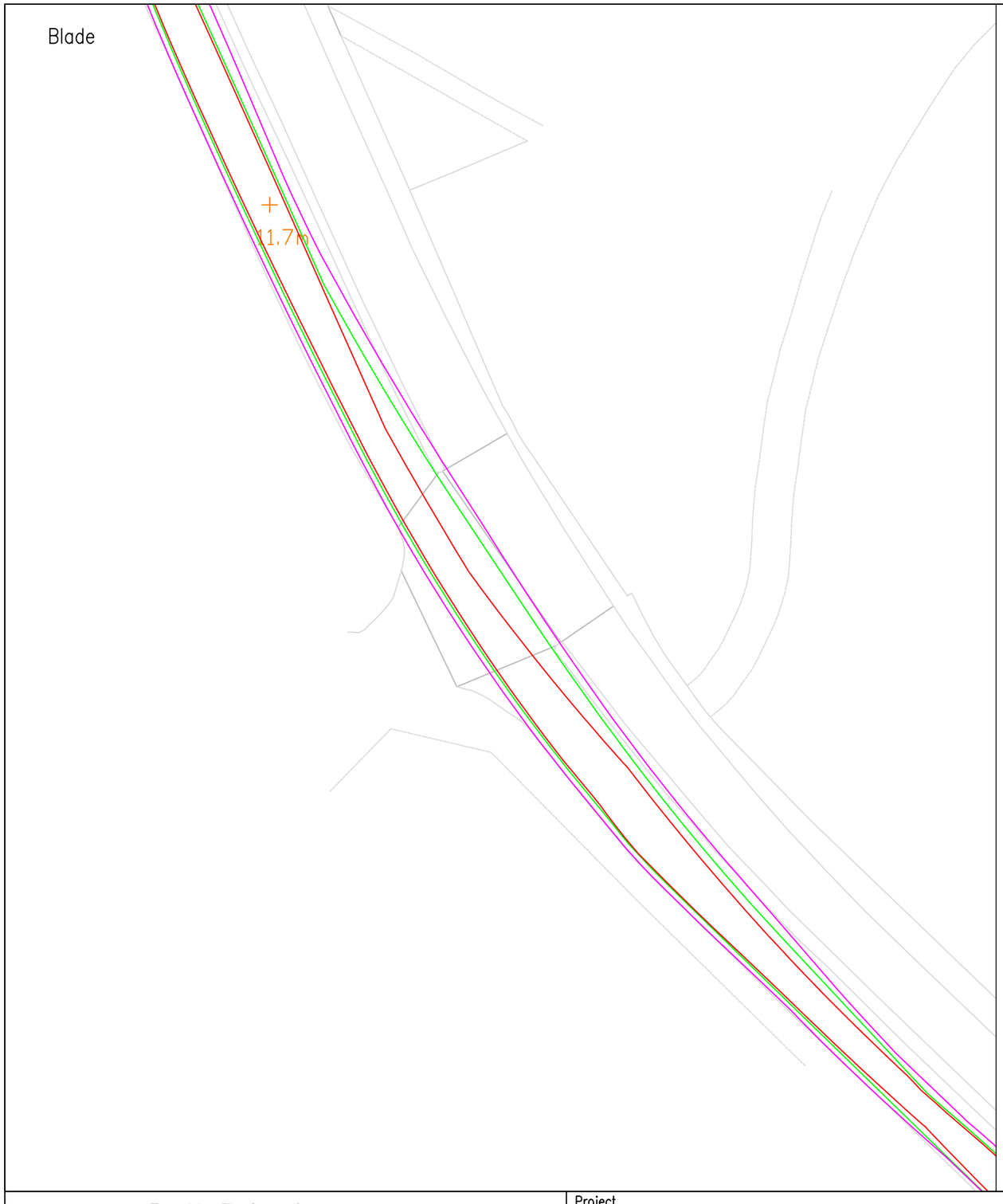
Drawing Status: Draft

Drawing No.: SK12A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Stirling Road Bend 2

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		16

Scale: 1:500 @ A3

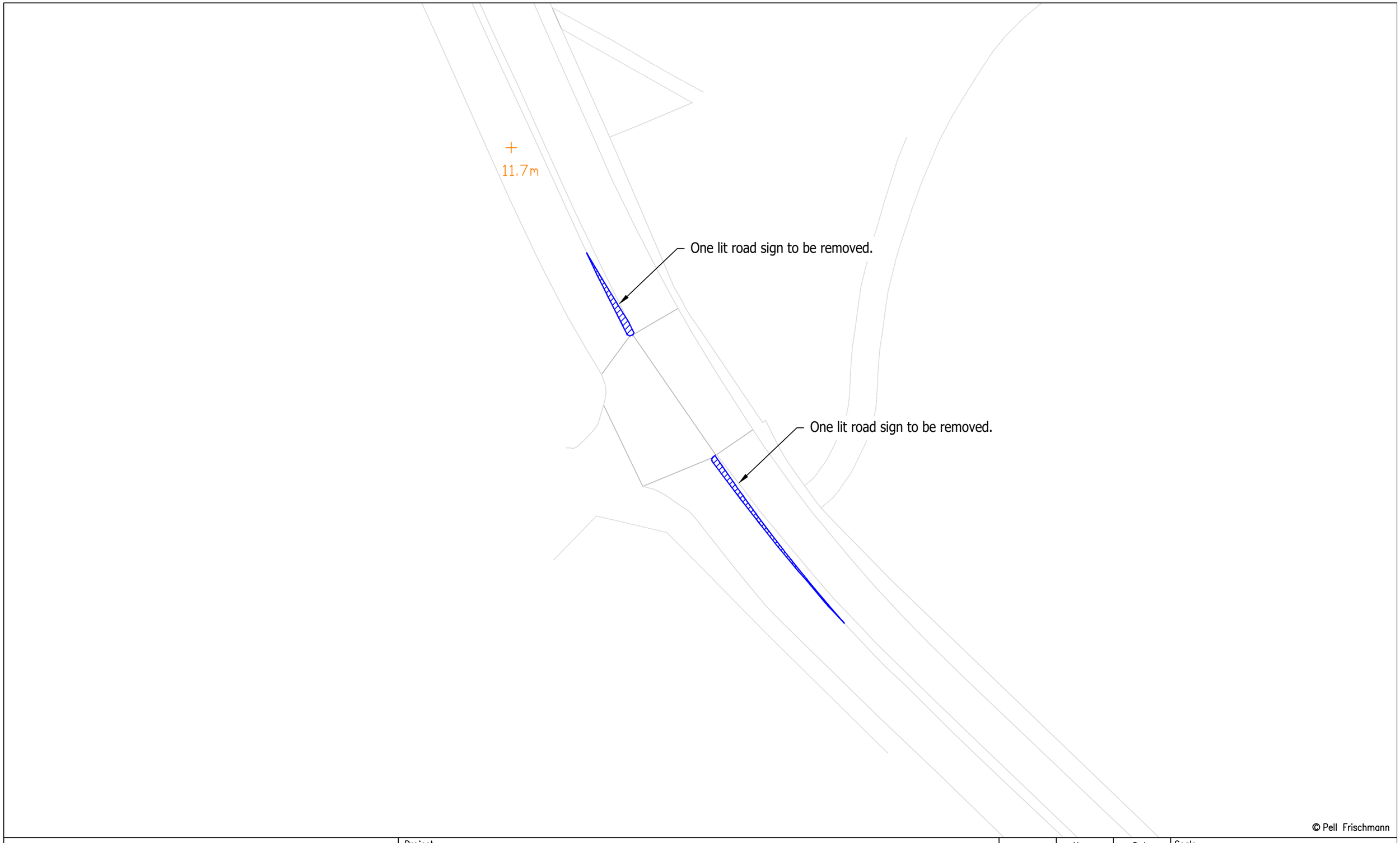
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK13

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A82 Stirling Road Bend 2

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		16

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK13A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Barloan Toll Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		17

Scale: 1:750 @ A3

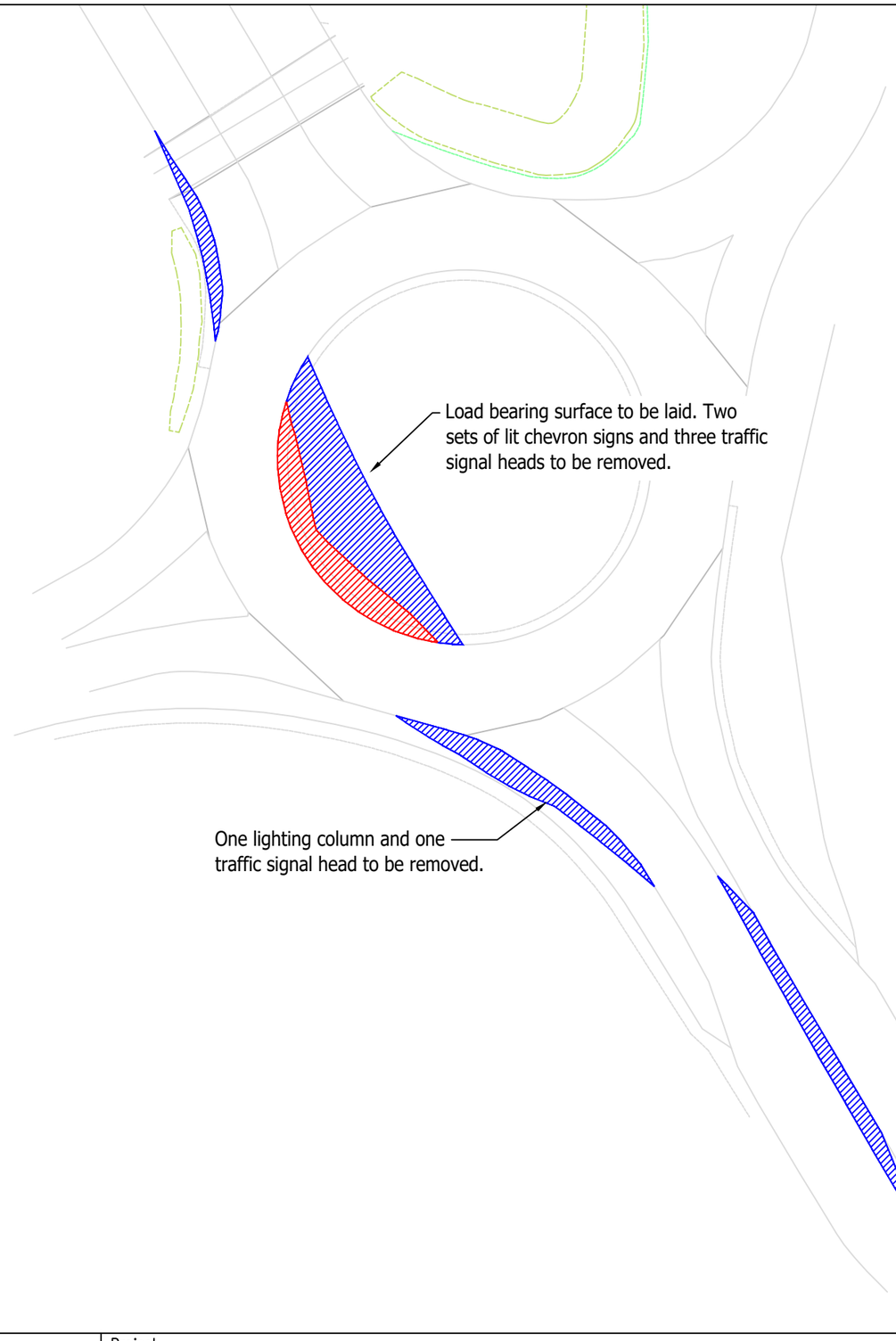
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK14

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Barloan Toll Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		17

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK14A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Lomondgate Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		18 & 19

Scale: 1:1000 @ A3

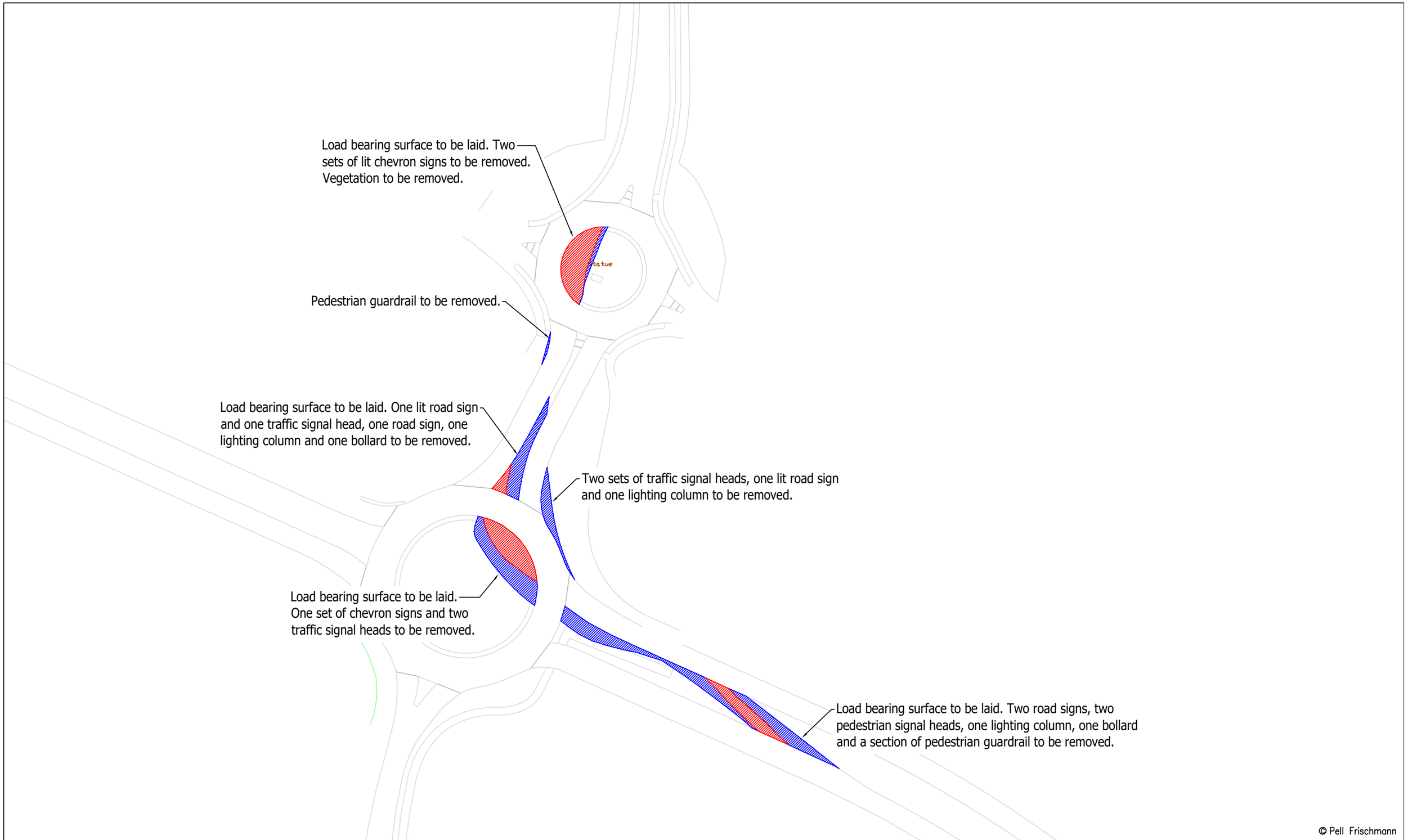
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK15

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Lomondgate Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		18 & 19

Scale: 1:1250 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

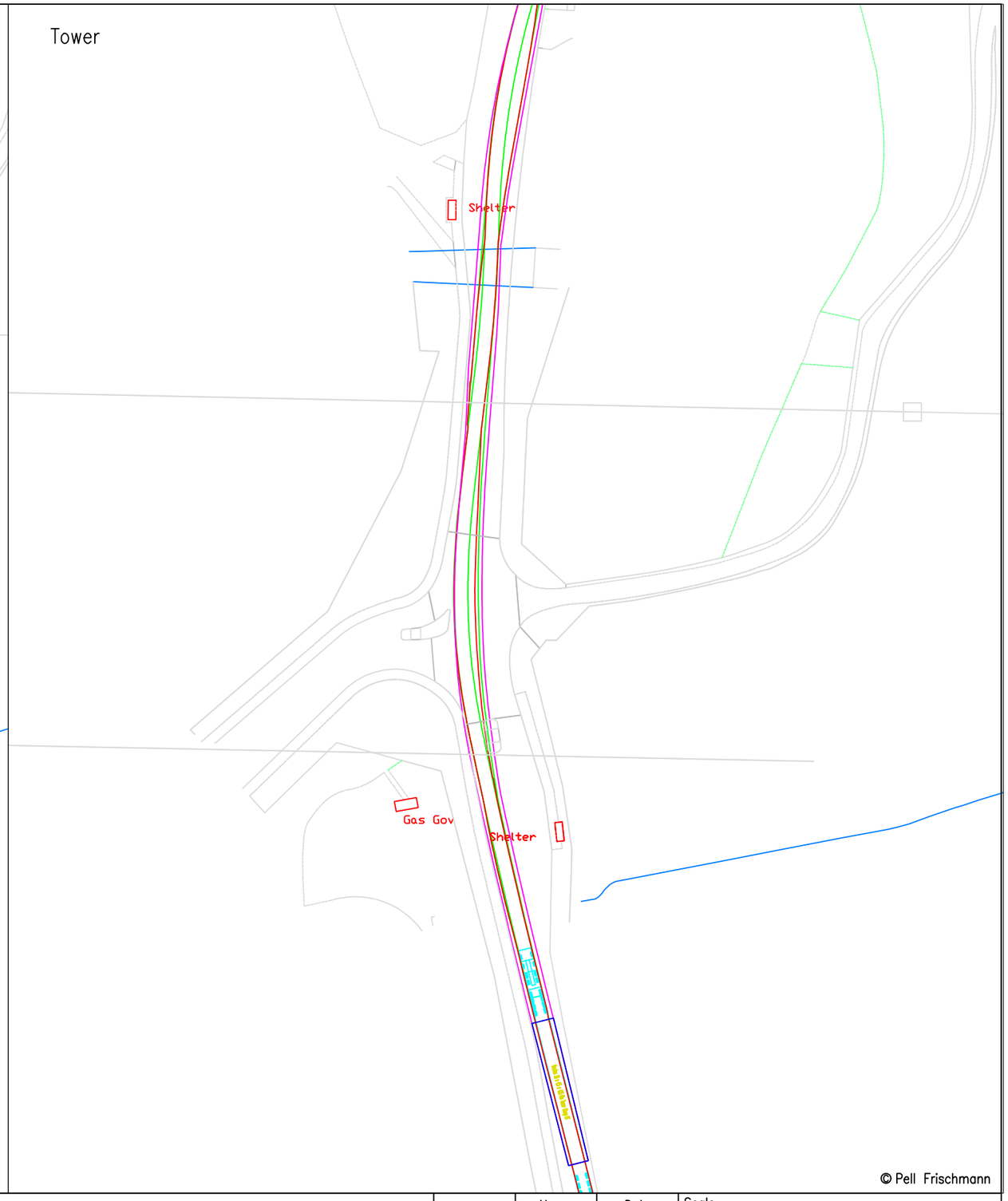
Drawing No.: SK15A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Option 2 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		20

Scale: 1:1000 @ A3

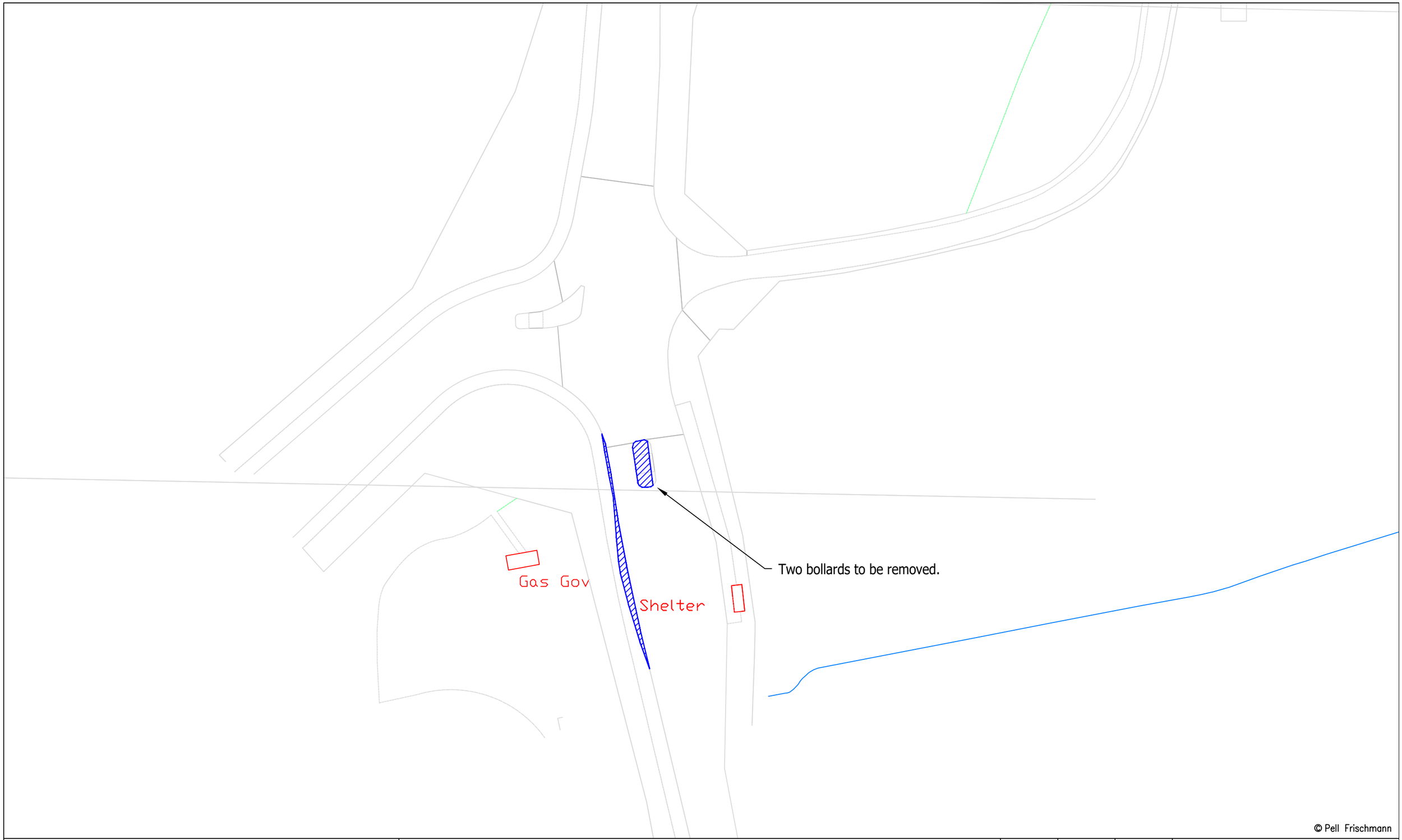
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK16

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Option 2 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		20

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

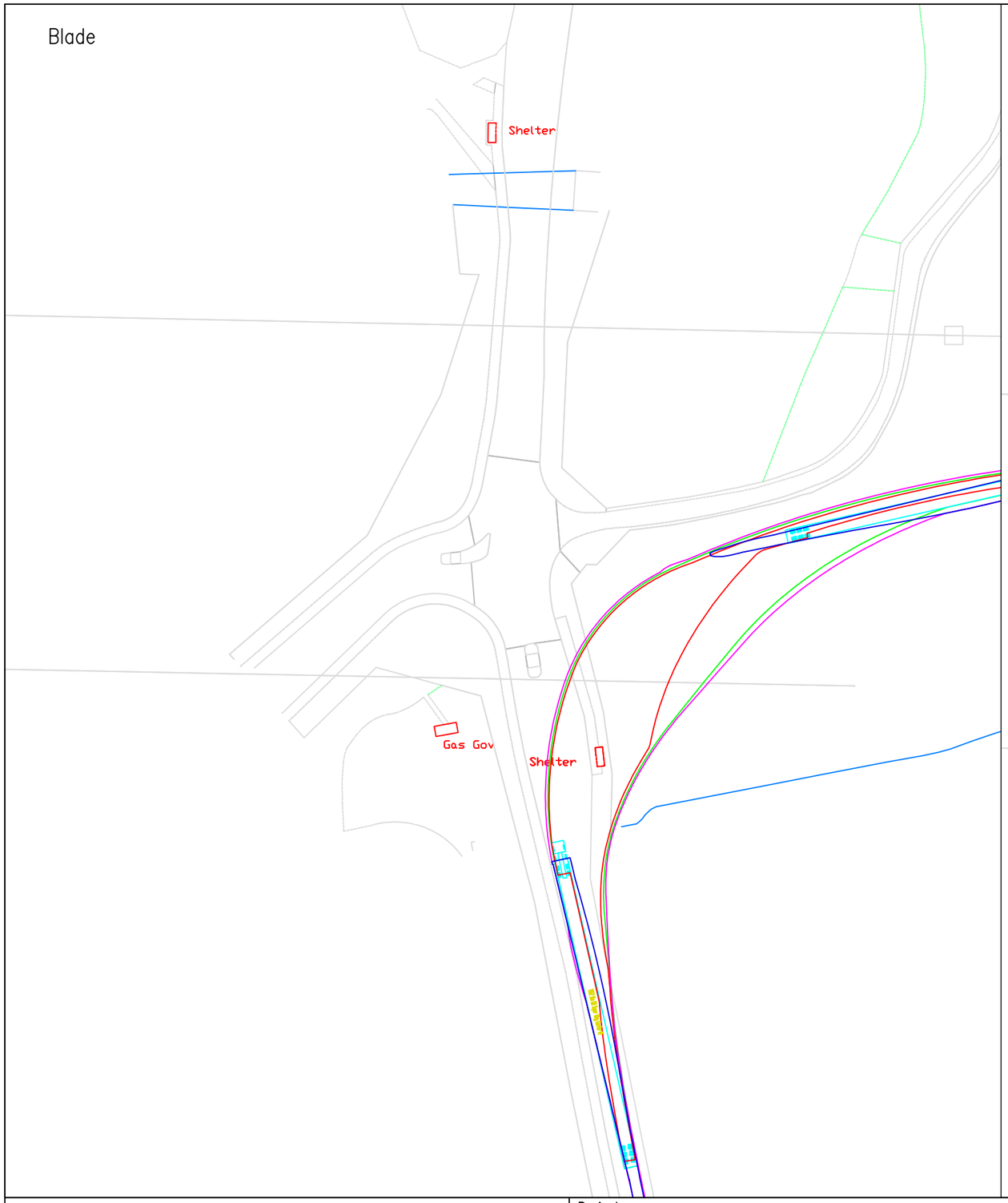
Drawing Status: Draft

Drawing No.: SK16A

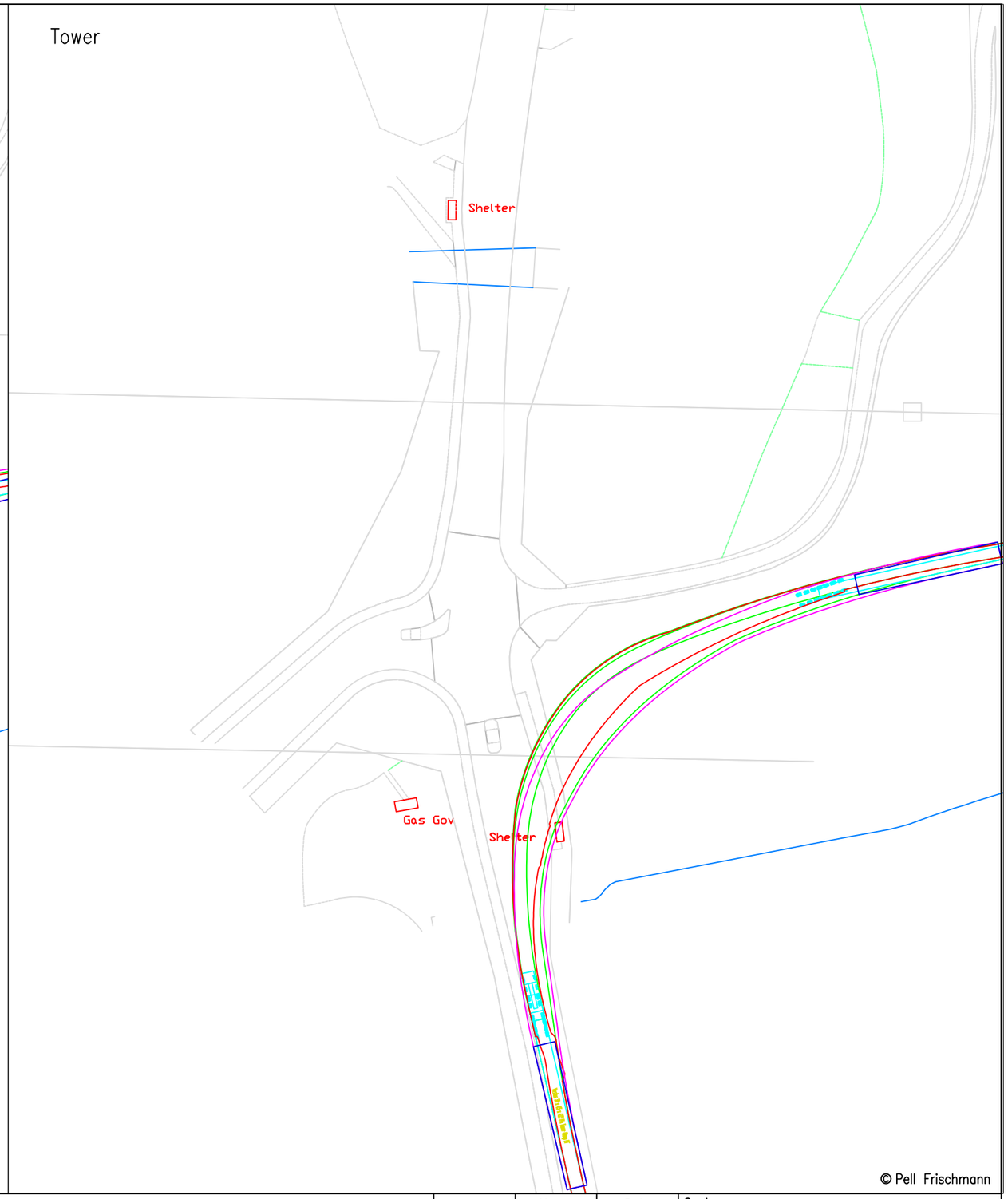
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Option 2 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		20

Scale: 1:1000 @ A3

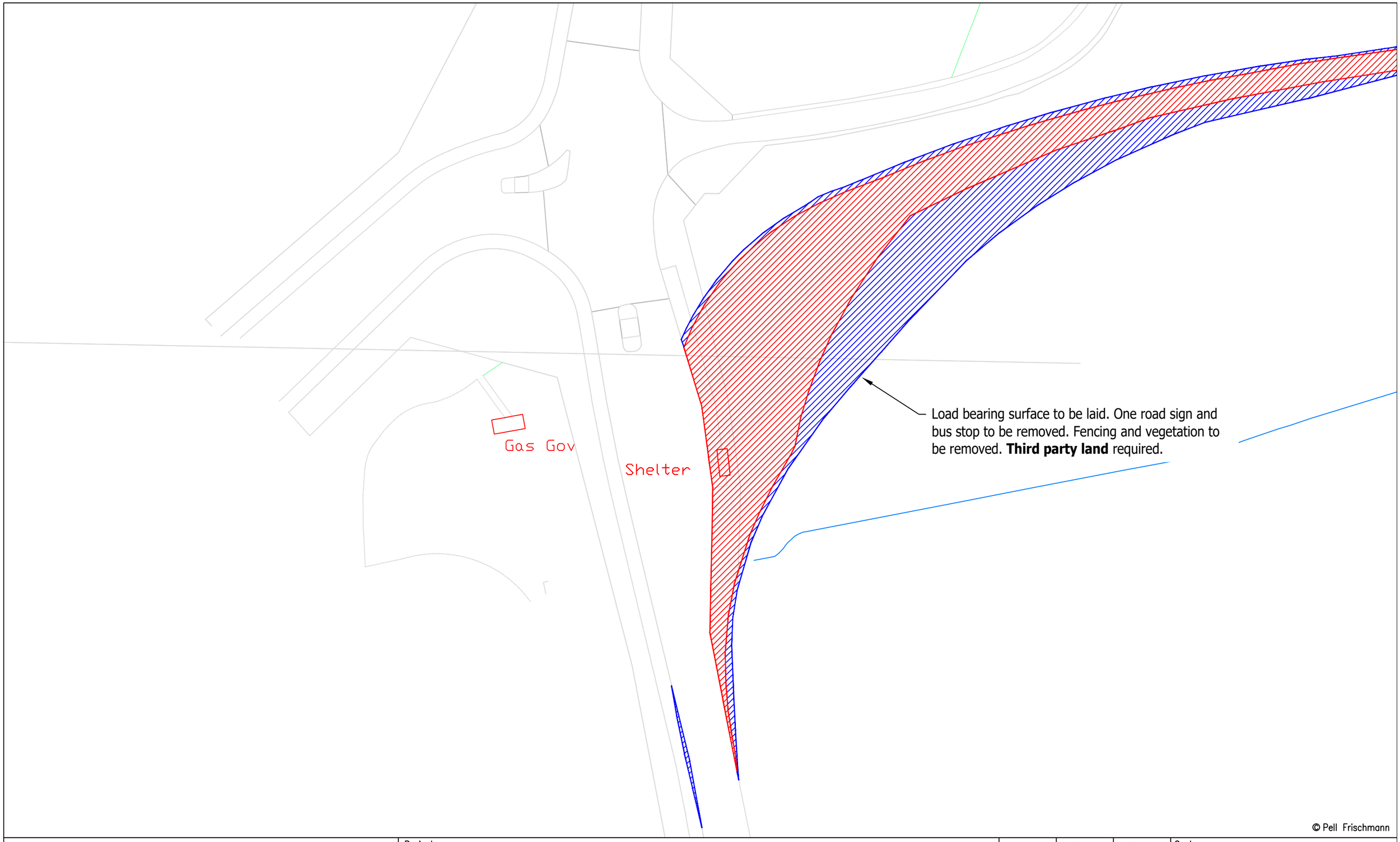
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK16B

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Email: pfedinburgh@pellfrischmann.com
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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Option 2 Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		20

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

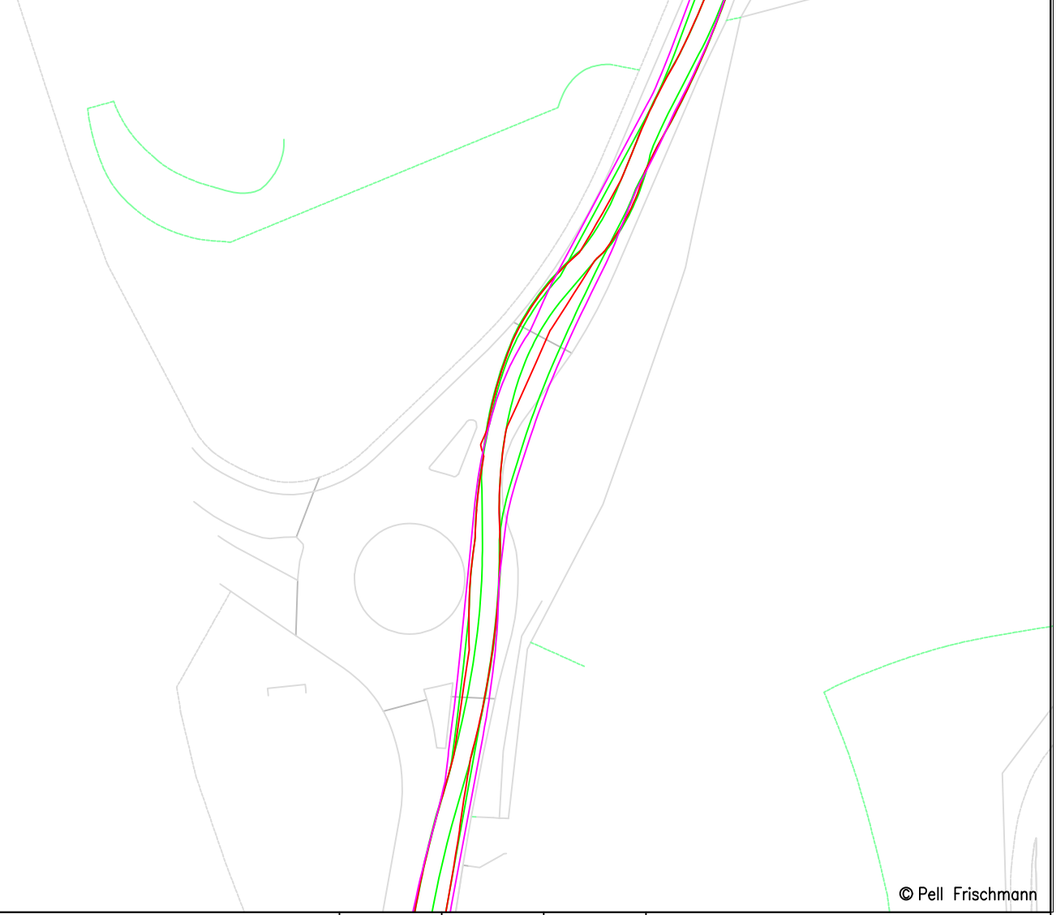
Drawing No.: SK16C

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Tower



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www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Chivas Brothers Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		21

Scale: Custom @ A3

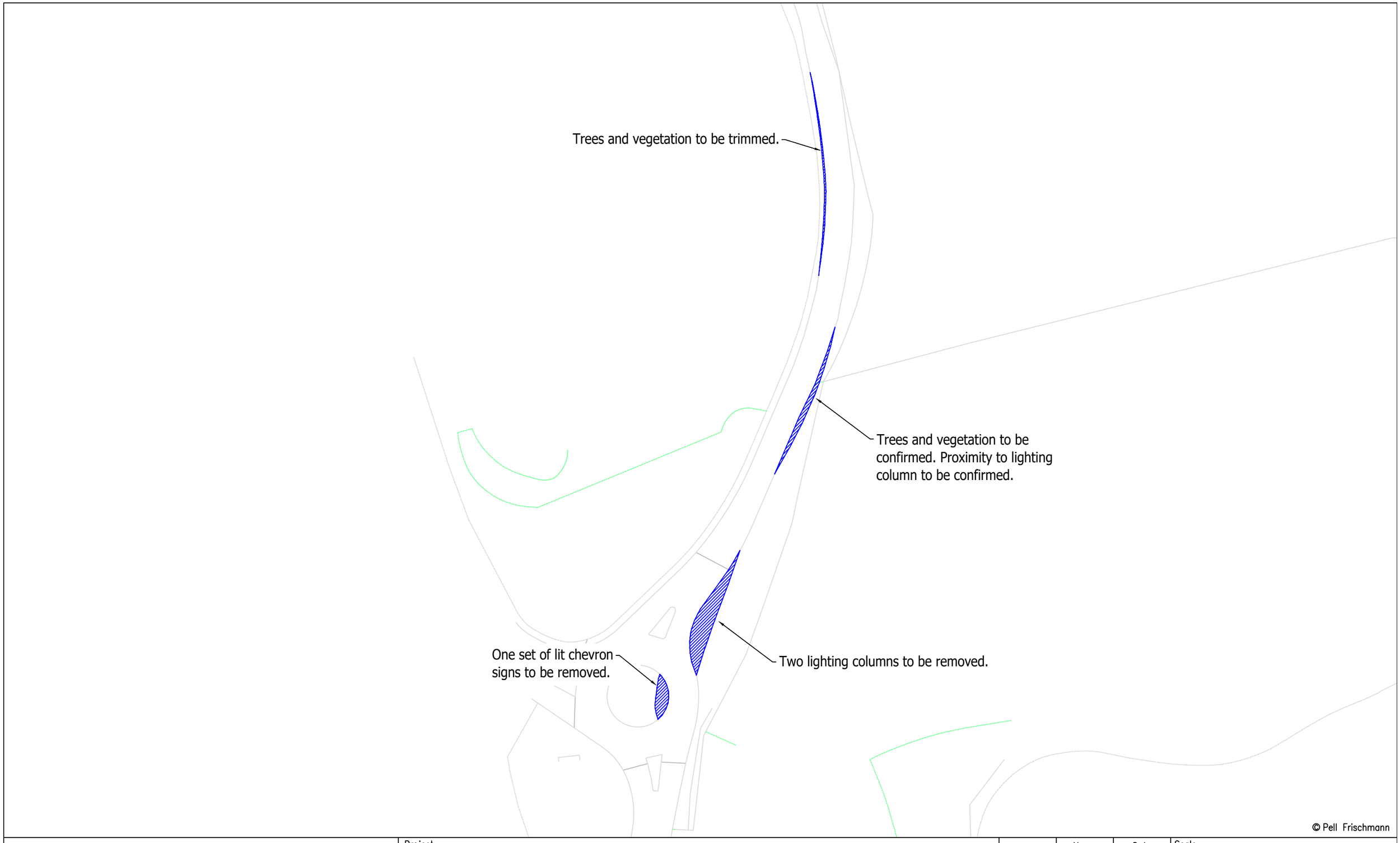
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK17

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Chivas Brothers Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		21

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

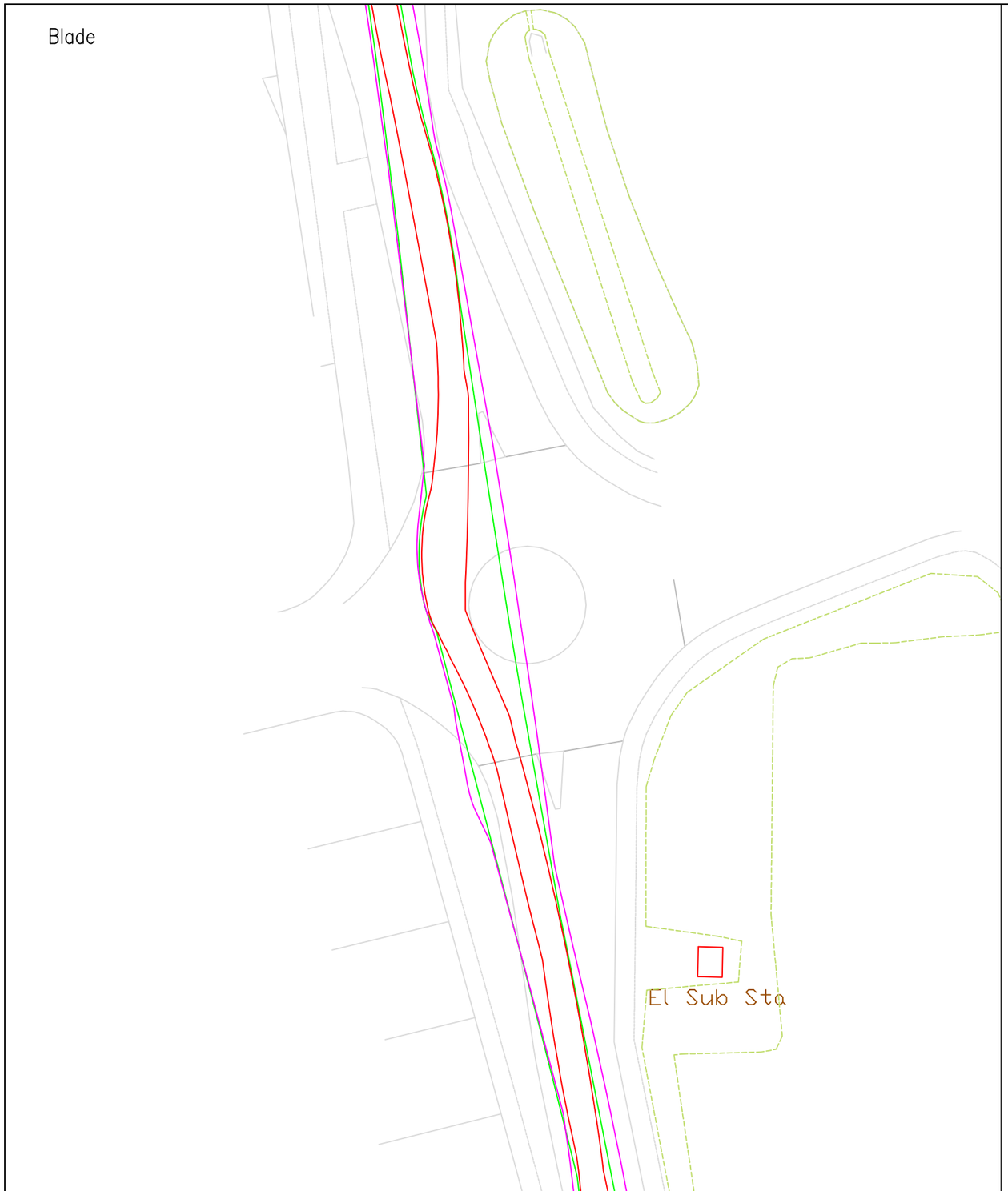
Drawing Status: Draft

Drawing No.: SK17A

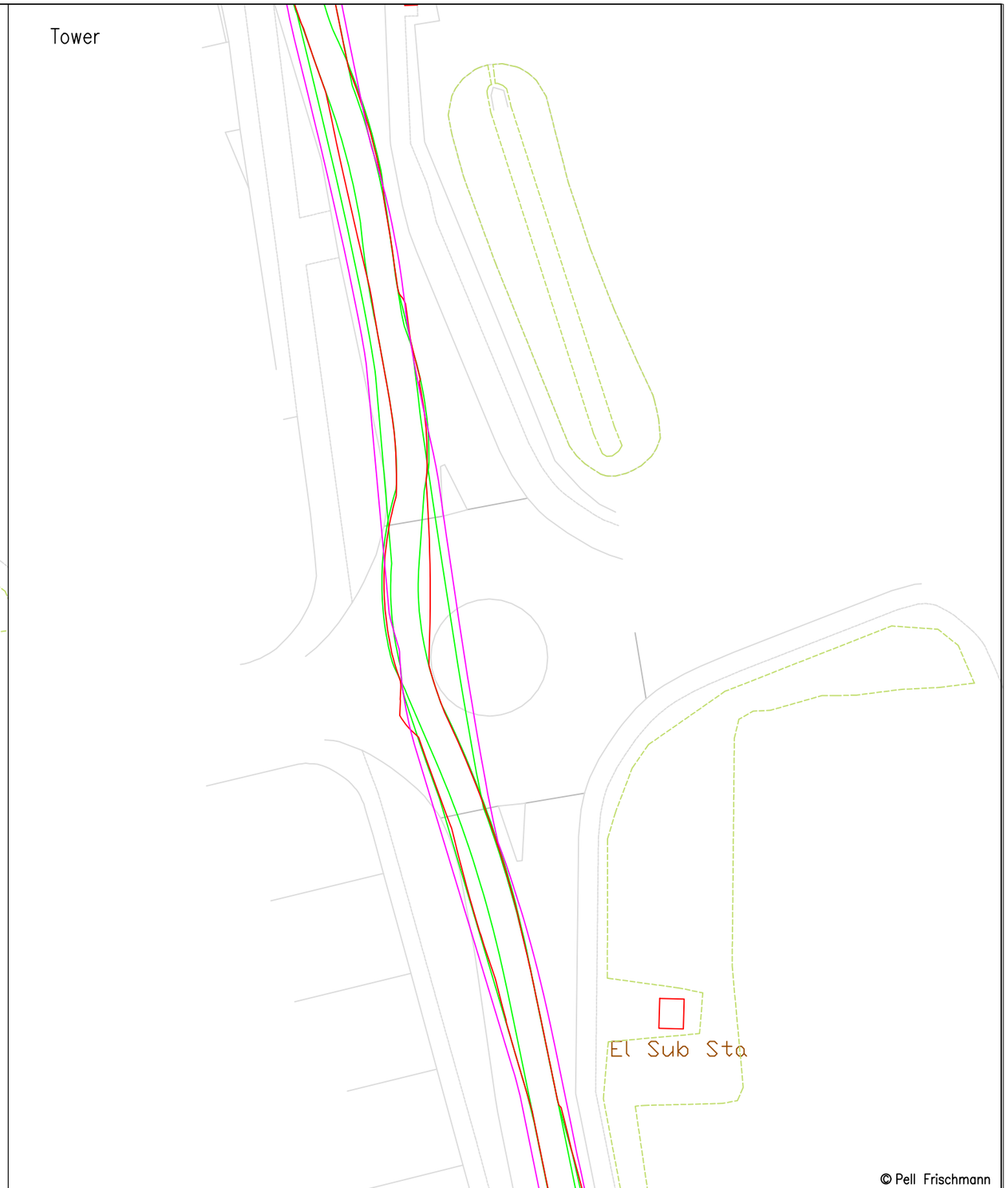
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 / Kingfisher Avenue Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		24

Scale: 1:500 @ A3

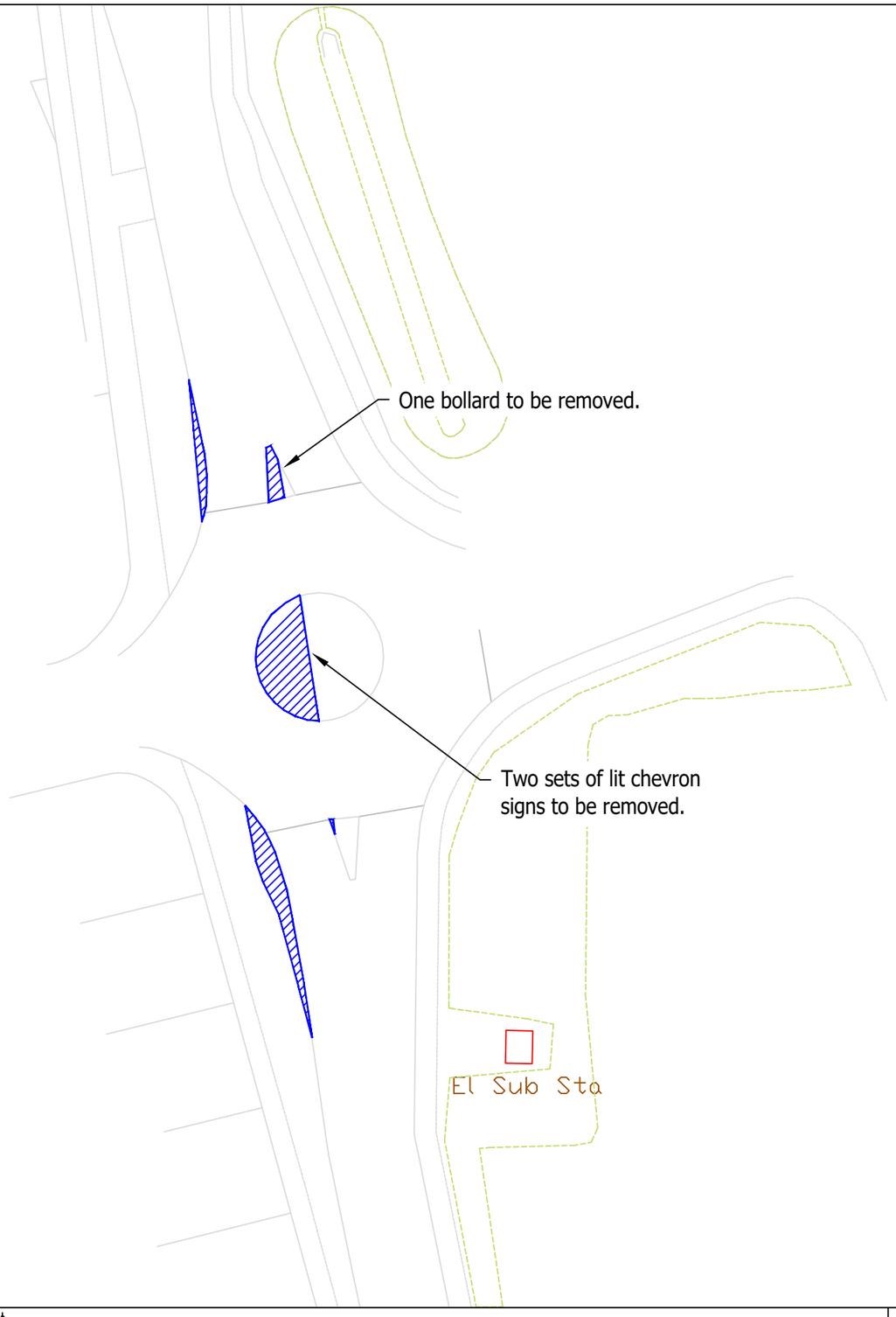
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK18

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 / Kingfisher Avenue Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		24

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK18A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Tower

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 / Strathleven Drive Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		25

Scale: 1:500 @ A3

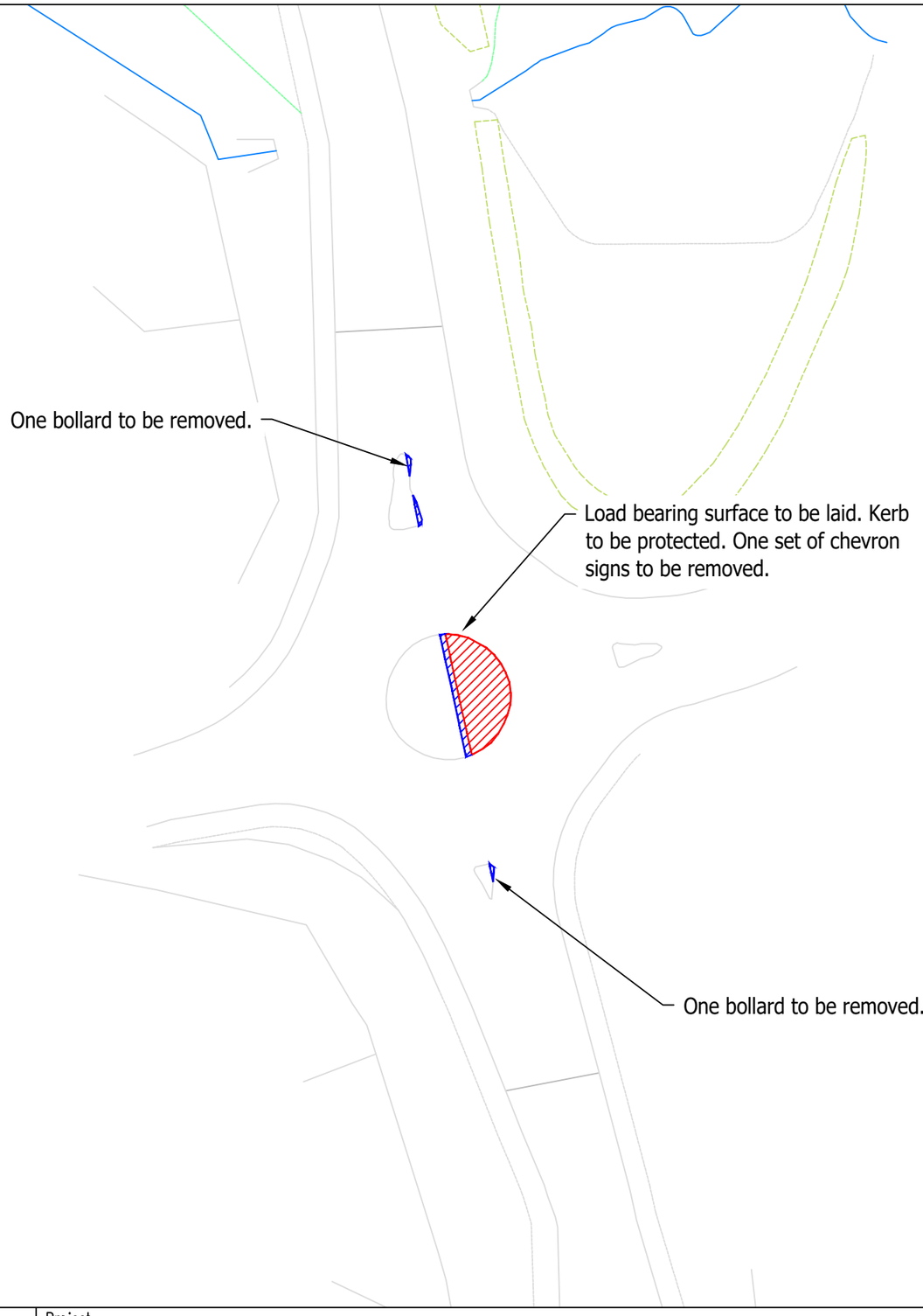
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK19

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 / Strathleven Drive Roundabout

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		25

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK19A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Shelter

A 813

Shelter

Tower

ter

A 813

Shelter

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 Bends

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		26

Scale: 1:750 @ A3

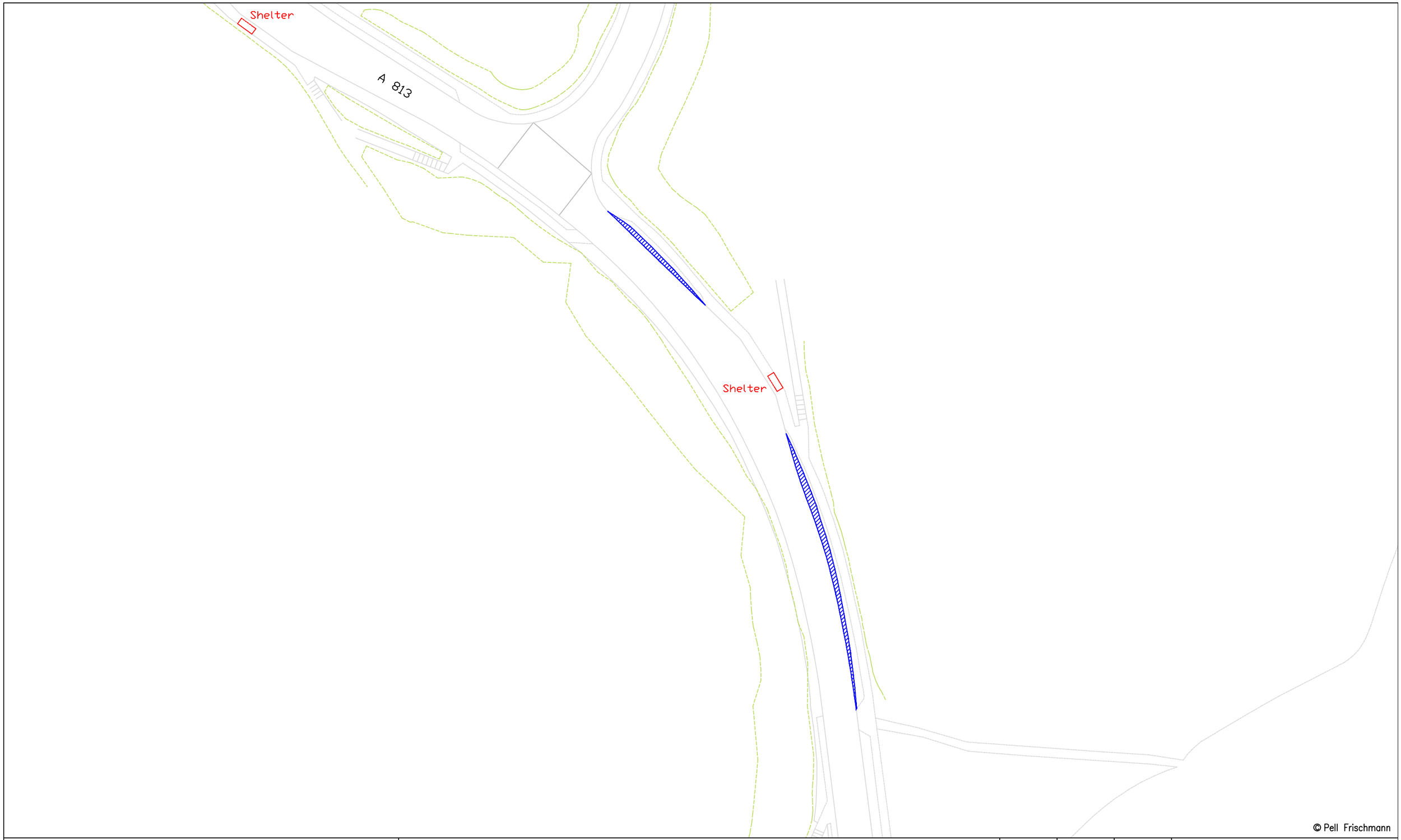
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK20

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 Bends

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		26

Scale: 1:750 @ A3

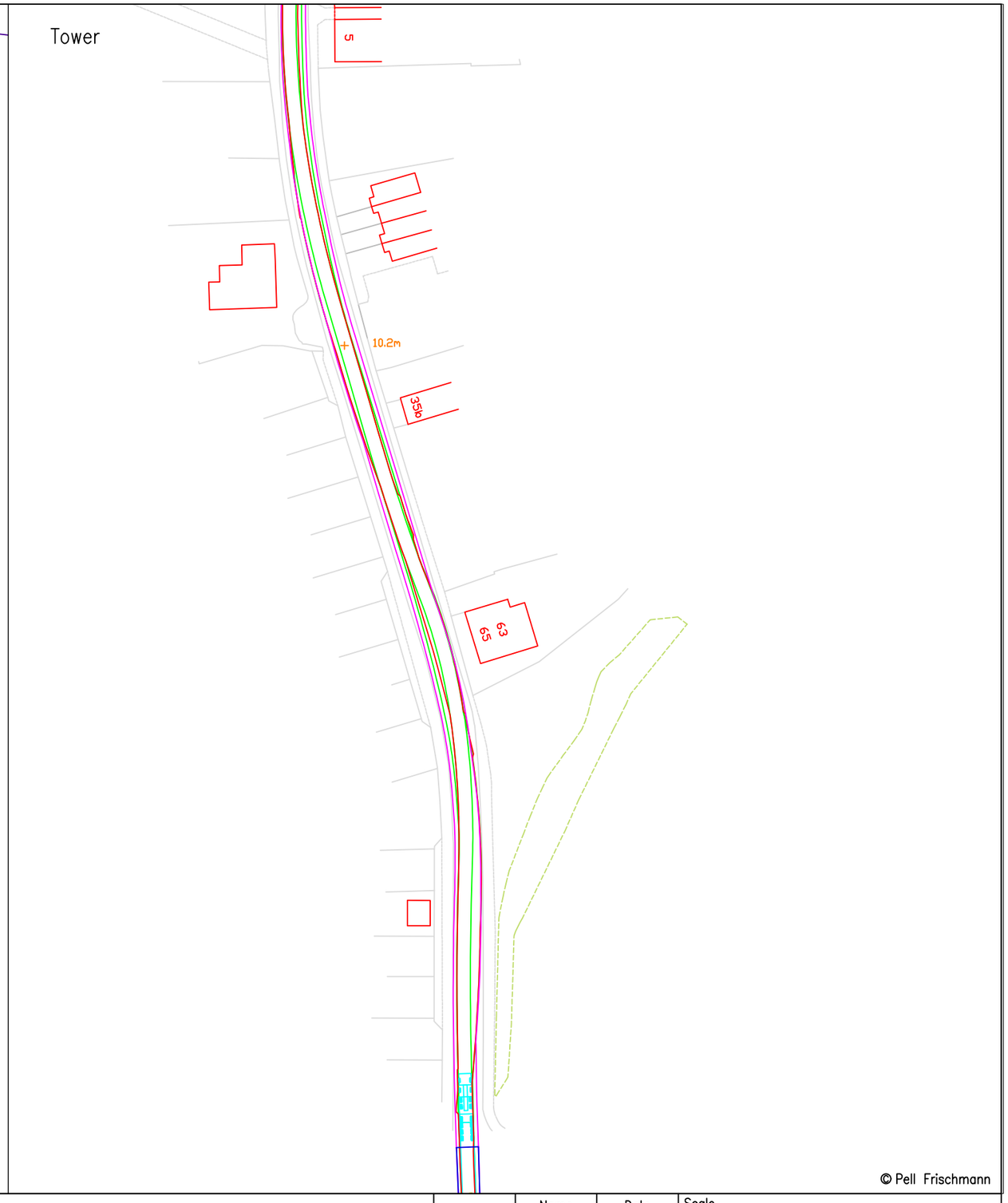
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK20A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 Bends 2

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		27 & 28

Scale: 1:1000 @ A3

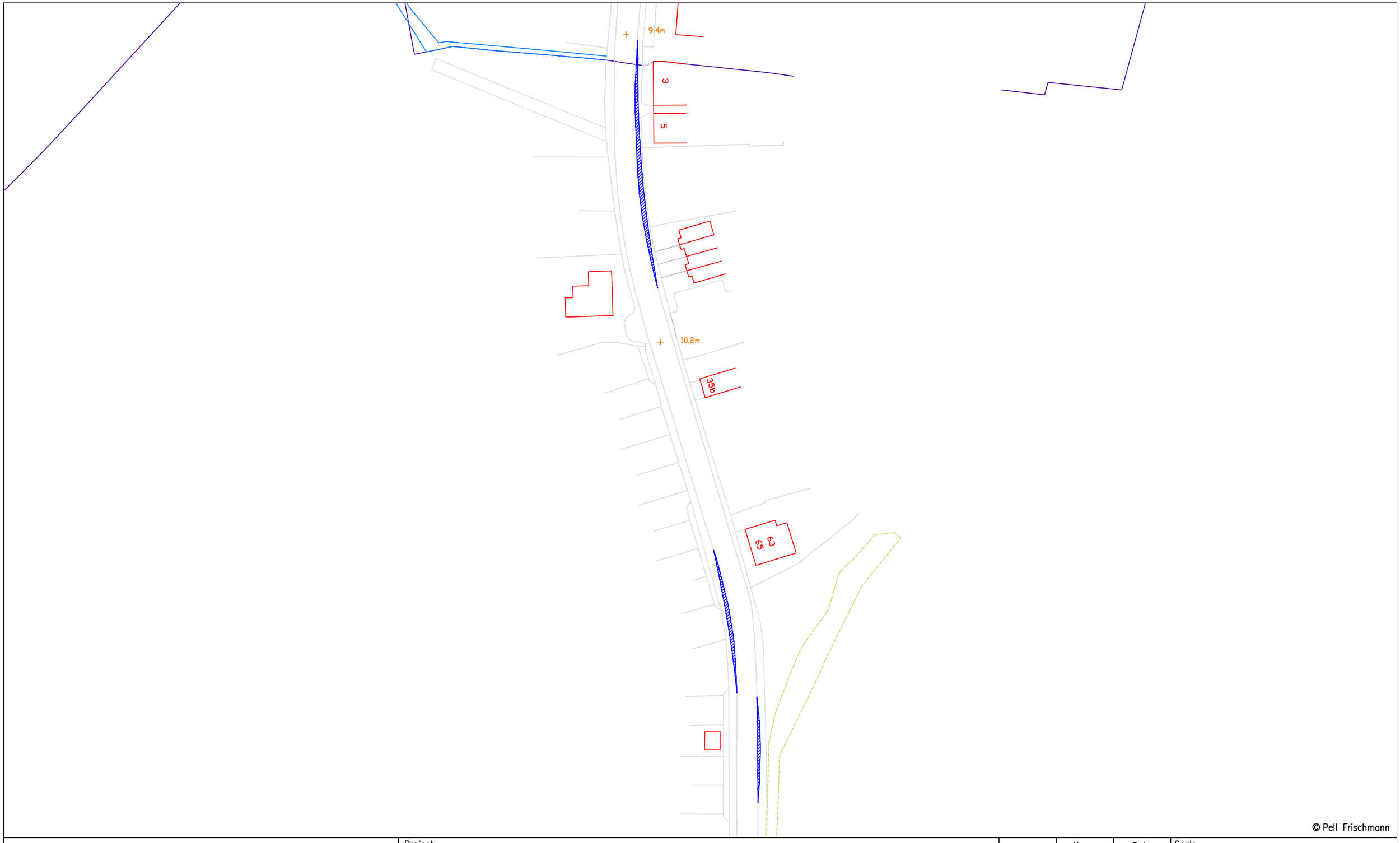
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK21

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: A813 Bends 2

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		27 & 28

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK21A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Tower

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Auchincarroch Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		29 & 30

Scale: 1:1000 @ A3

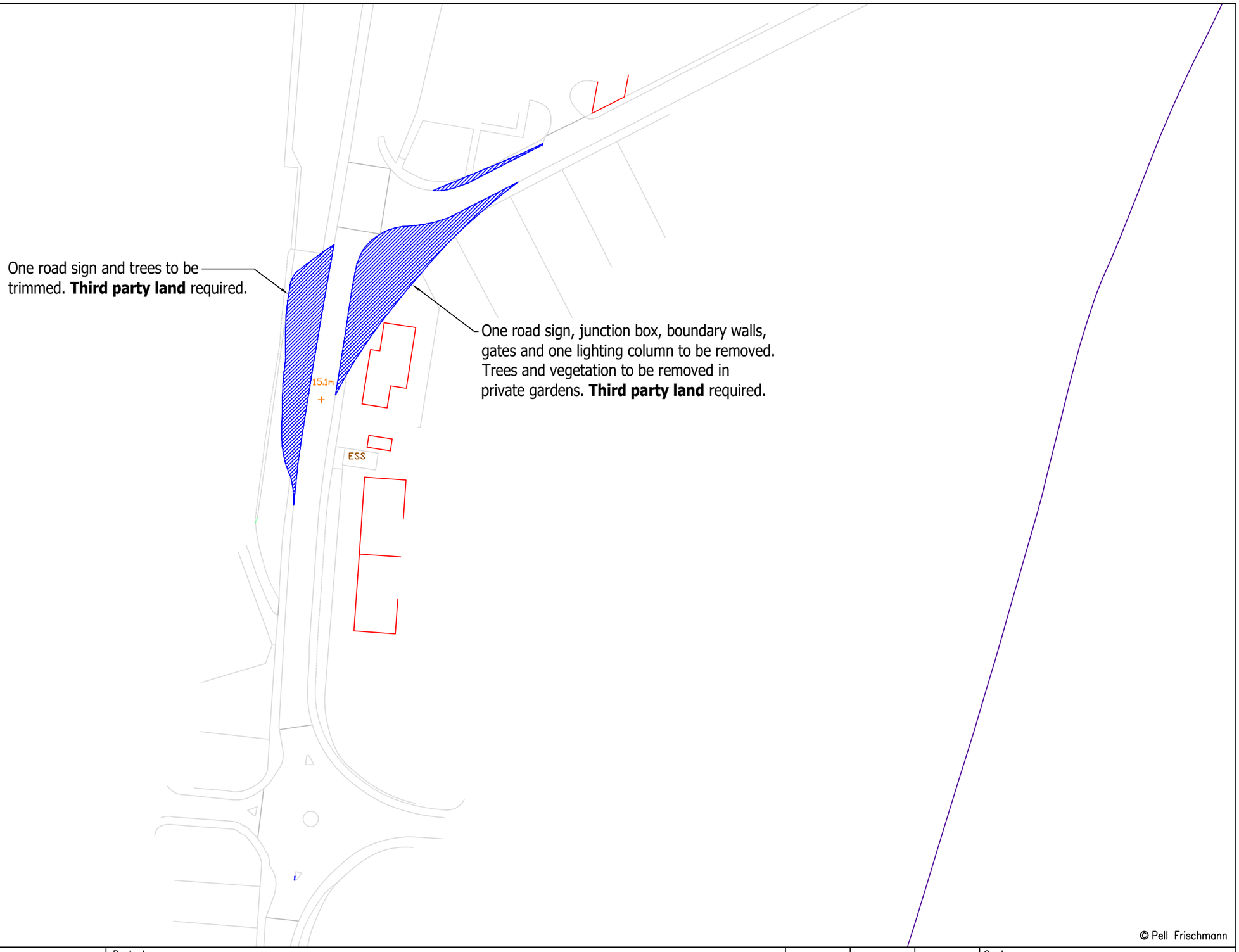
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK22

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Auchincarroch Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		29 & 30

Scale: 1:1000 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

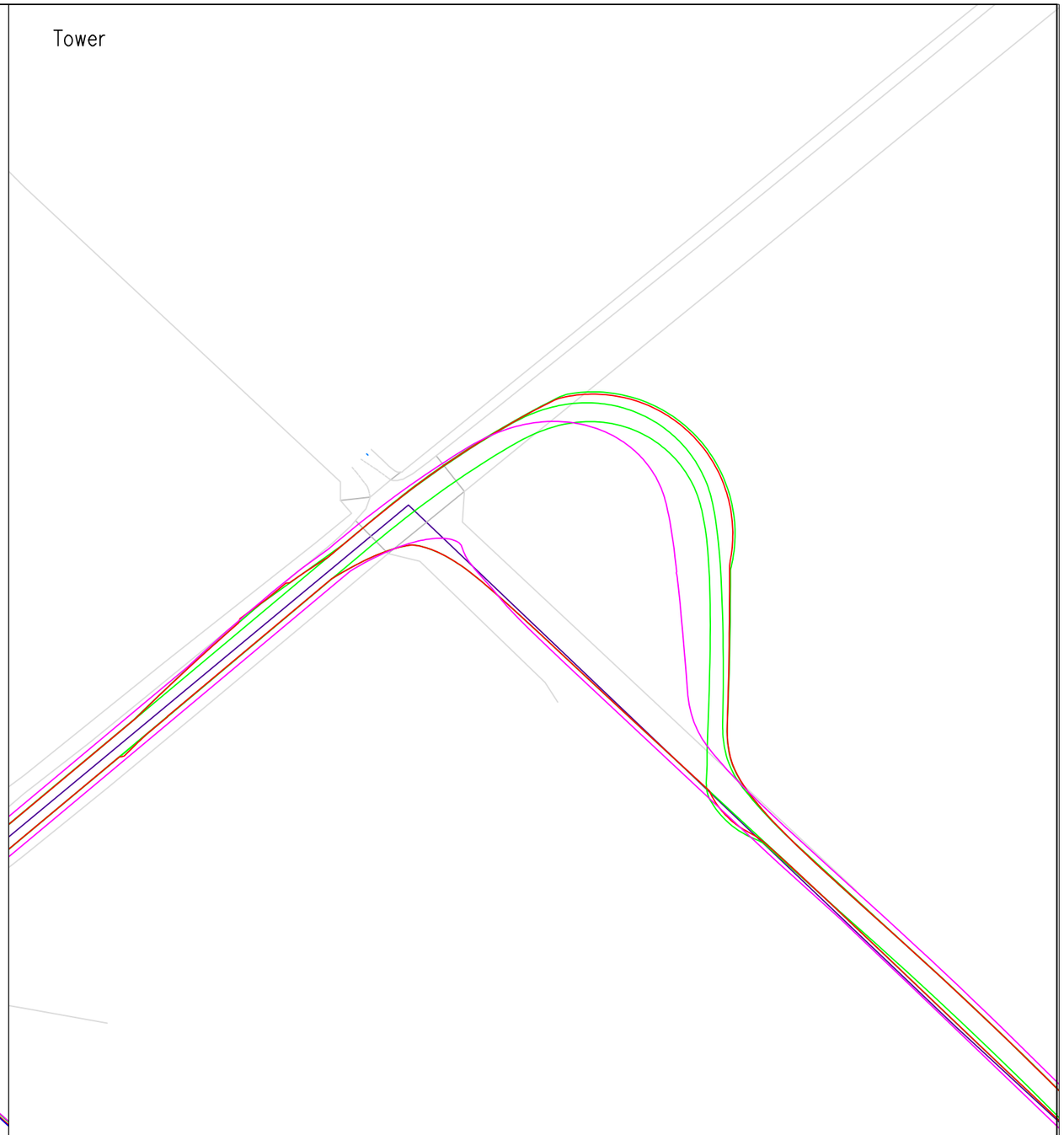
Drawing No.: SK22A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade

Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Junction Option 1

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		36

Scale: 1:750 @ A3

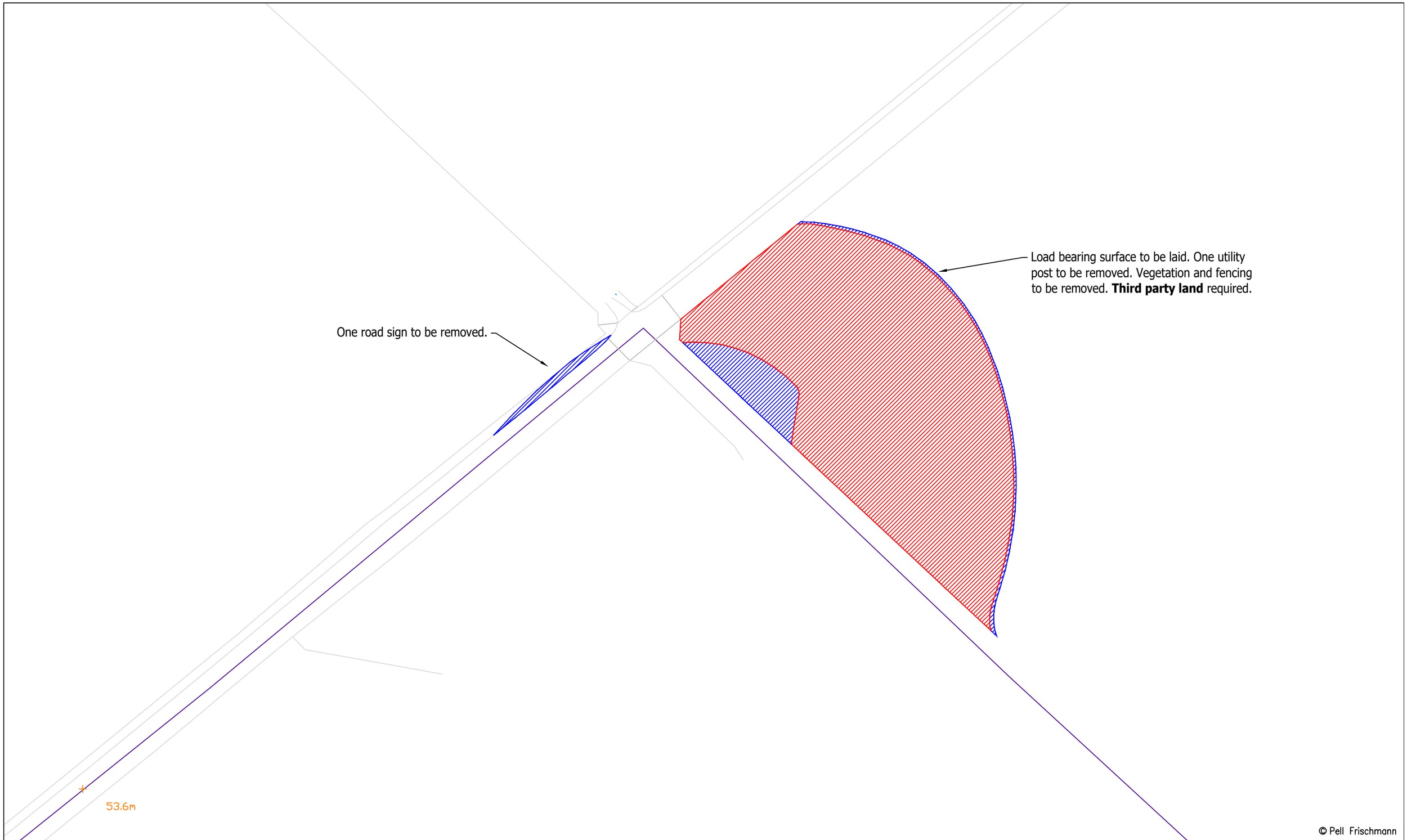
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK23

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Junction Option 1

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		36

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

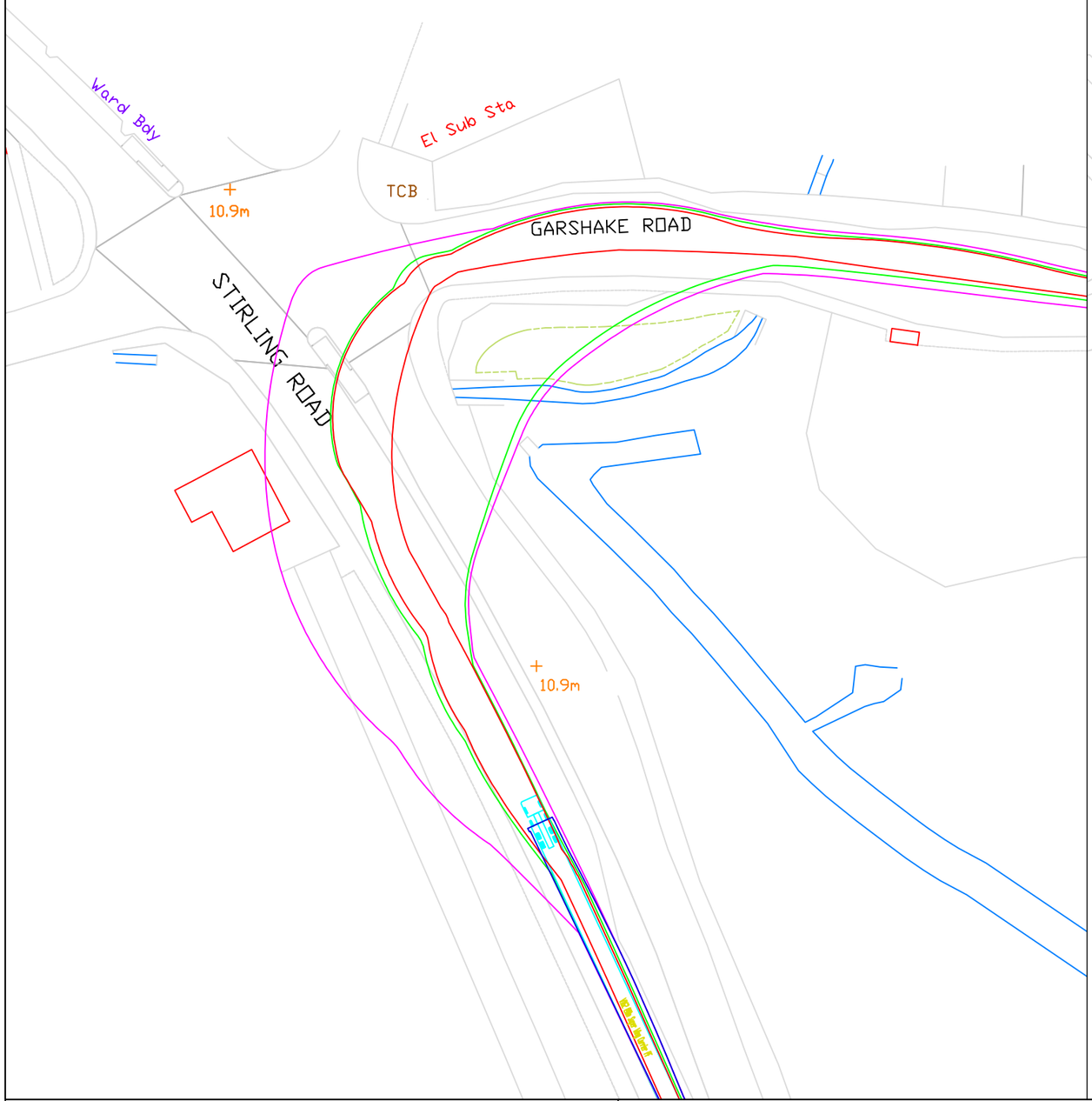
Drawing Status: Draft

Drawing No.: SK23A

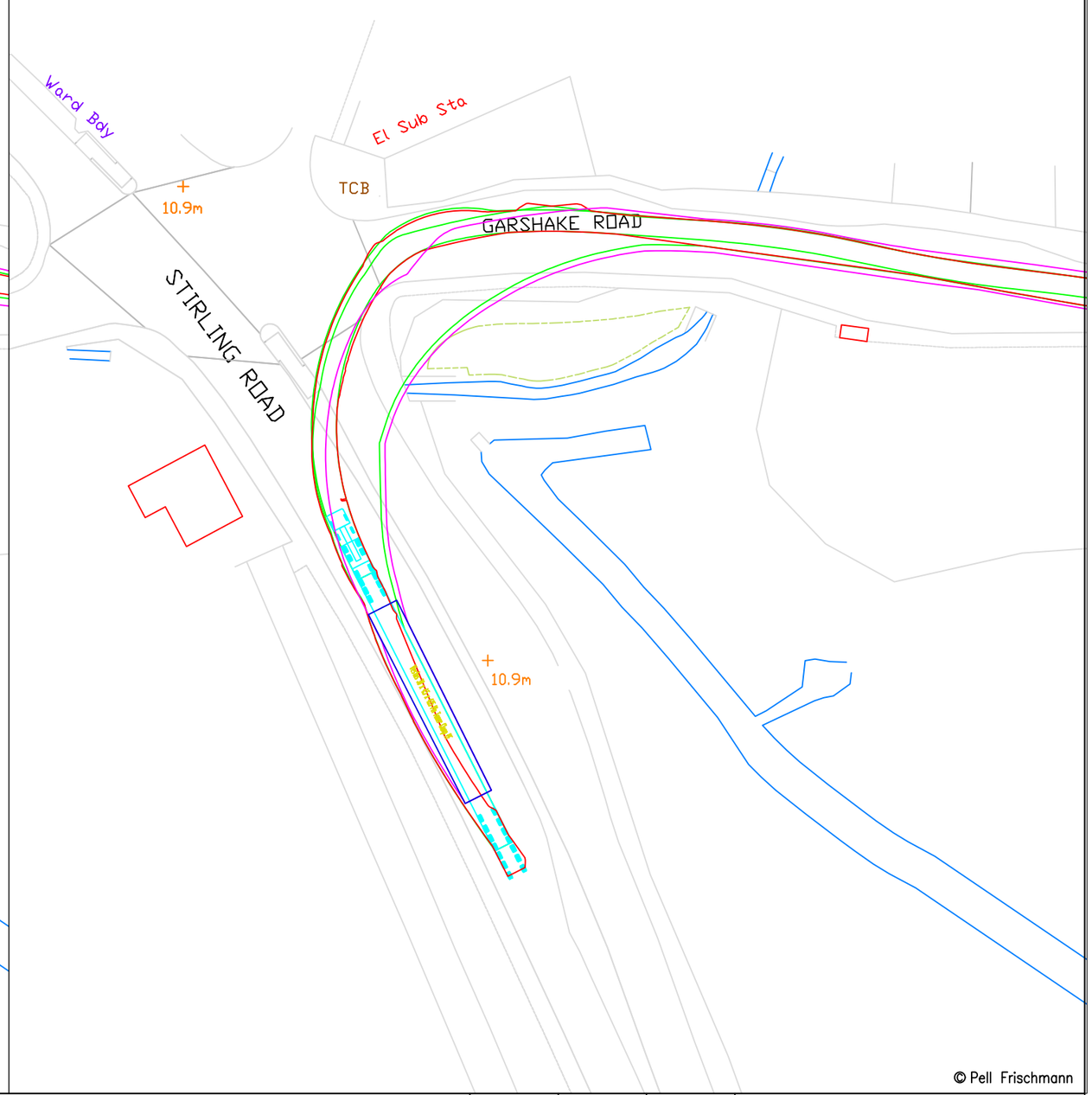
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		37

Scale: 1:750 @ A3

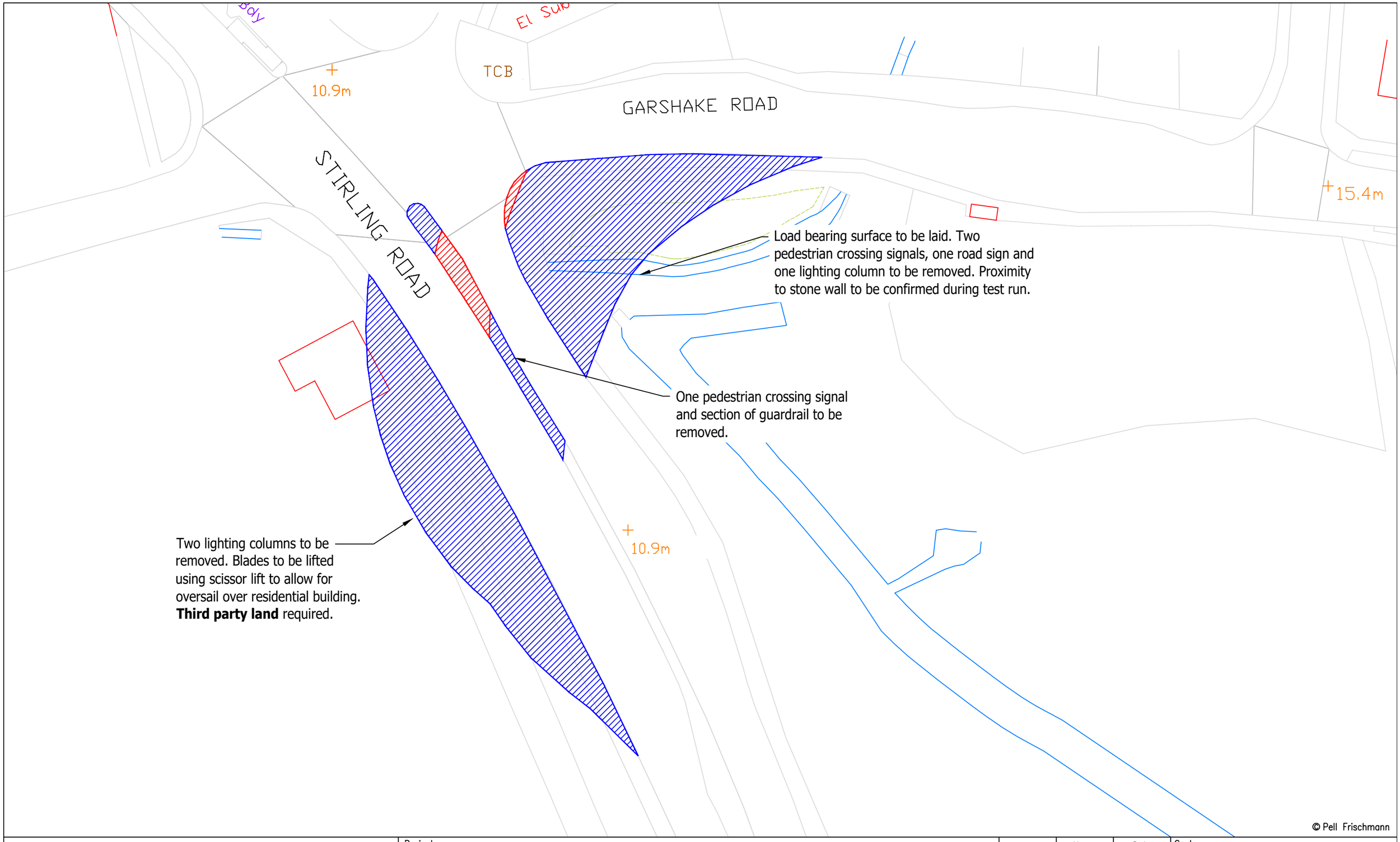
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK24

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		37

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

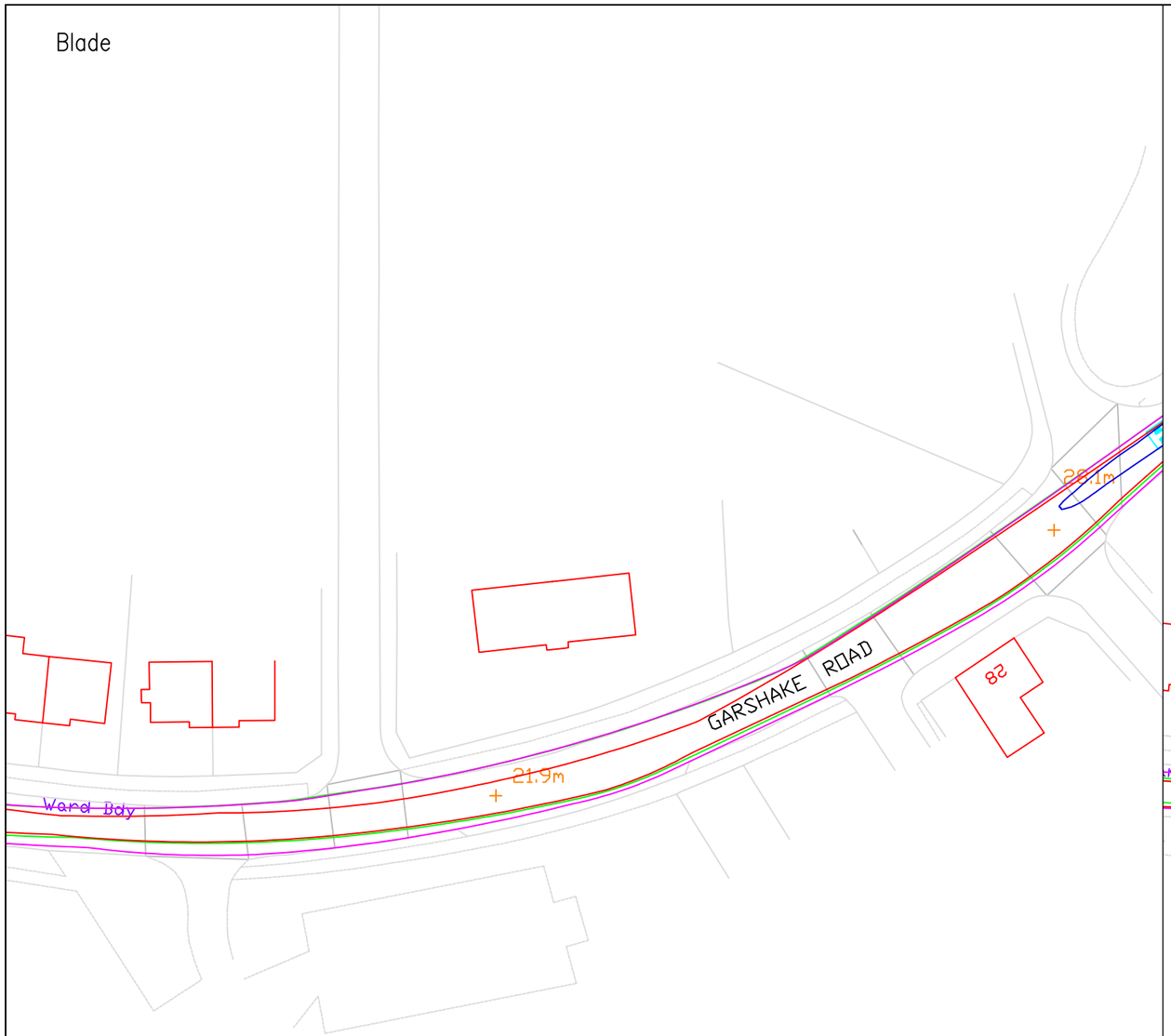
Drawing Status: Draft

Drawing No.: SK24A

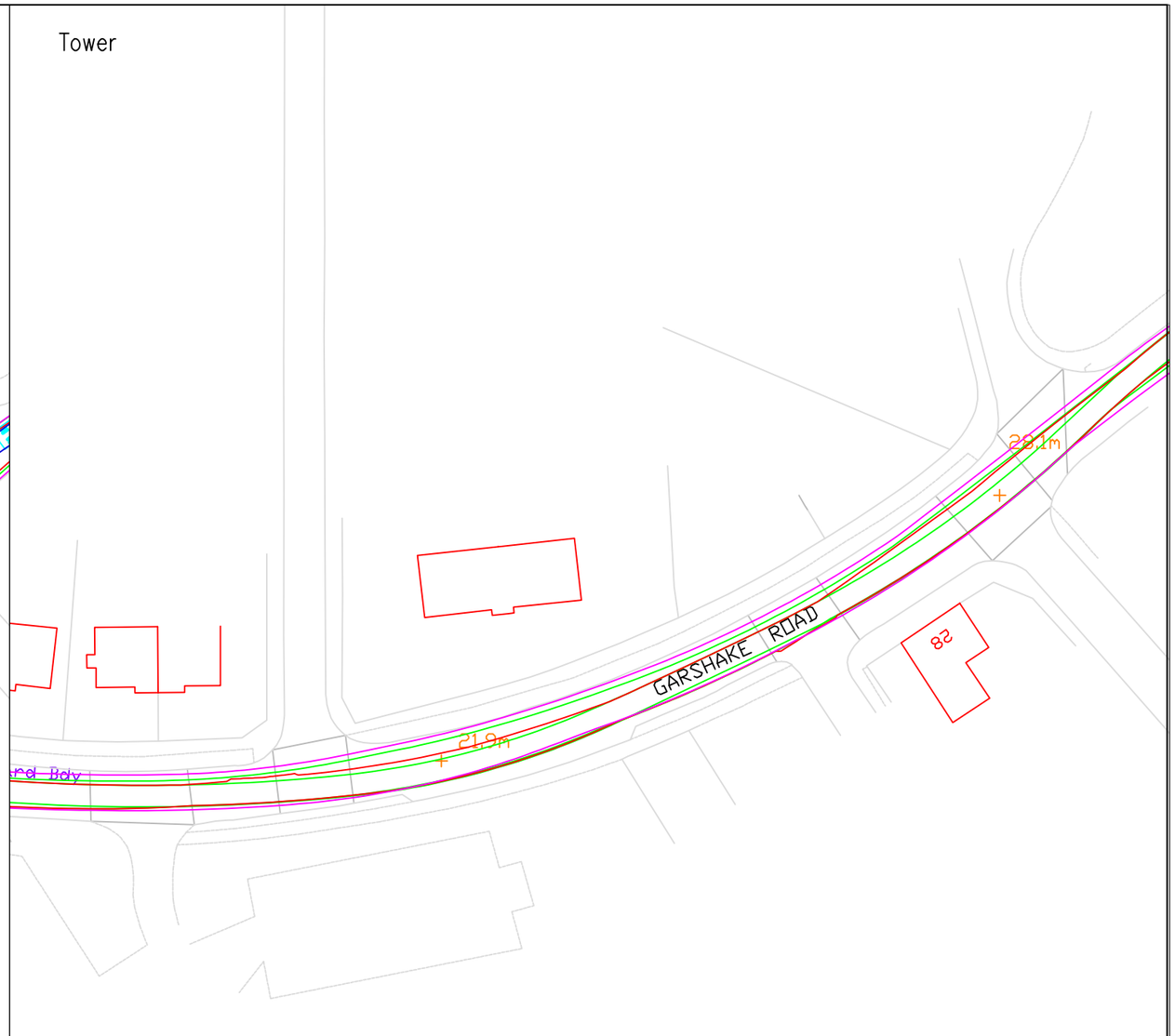
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Bends

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		38

Scale: 1:750 @ A3

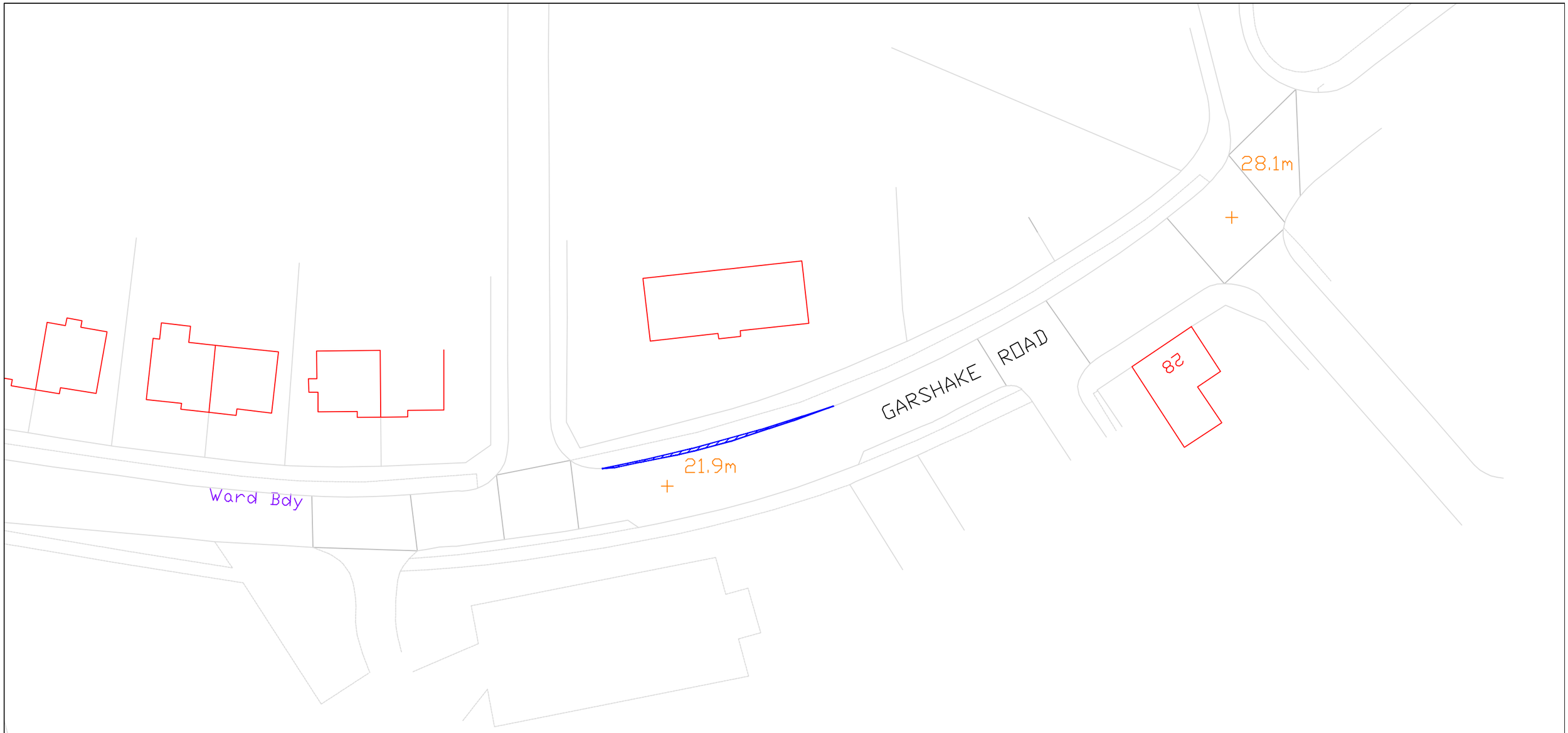
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK25

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Bends

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		38

Scale: 1:500 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

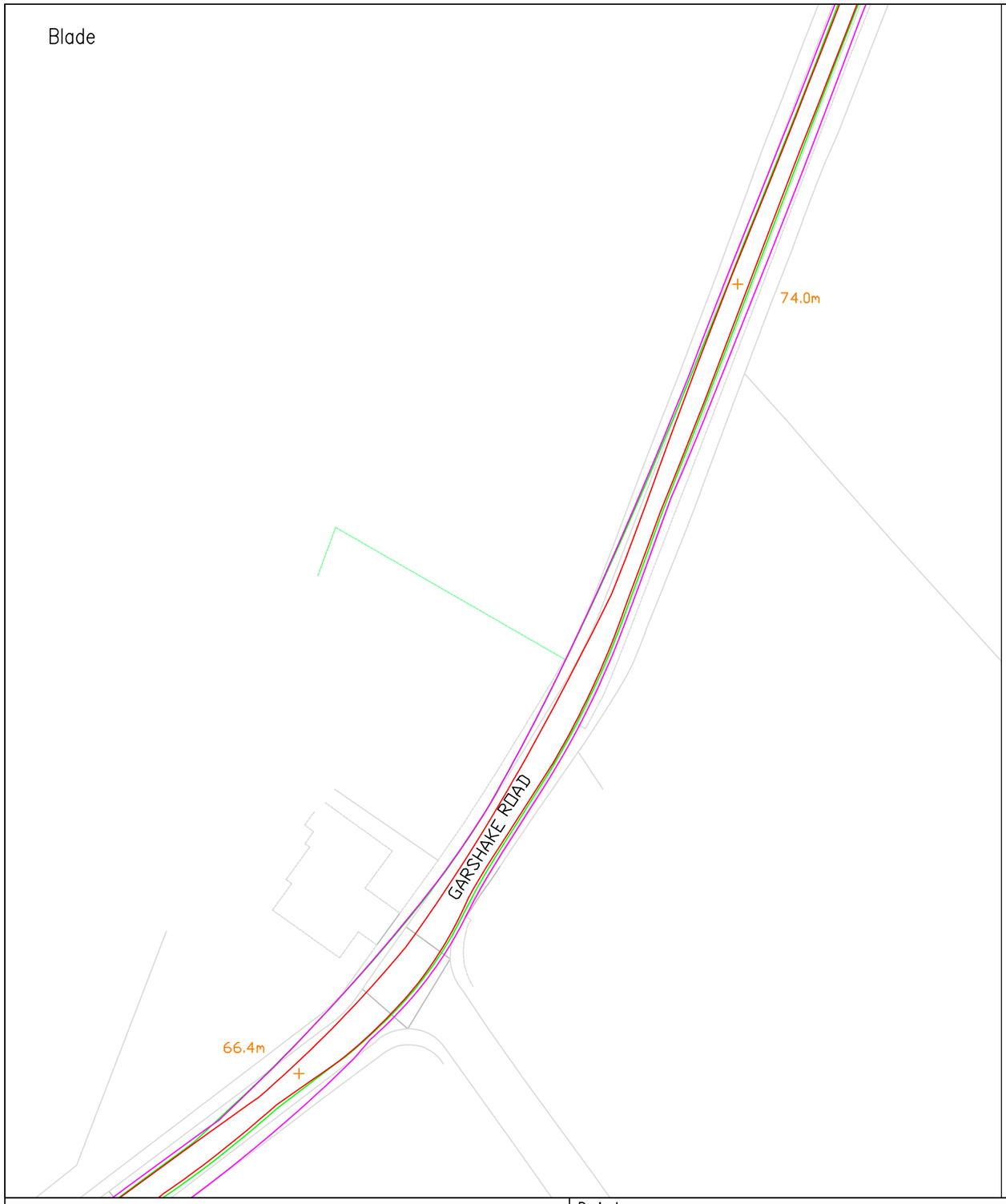
Drawing Status: Draft

Drawing No.: SK25A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		39

Scale: 1:750 @ A3

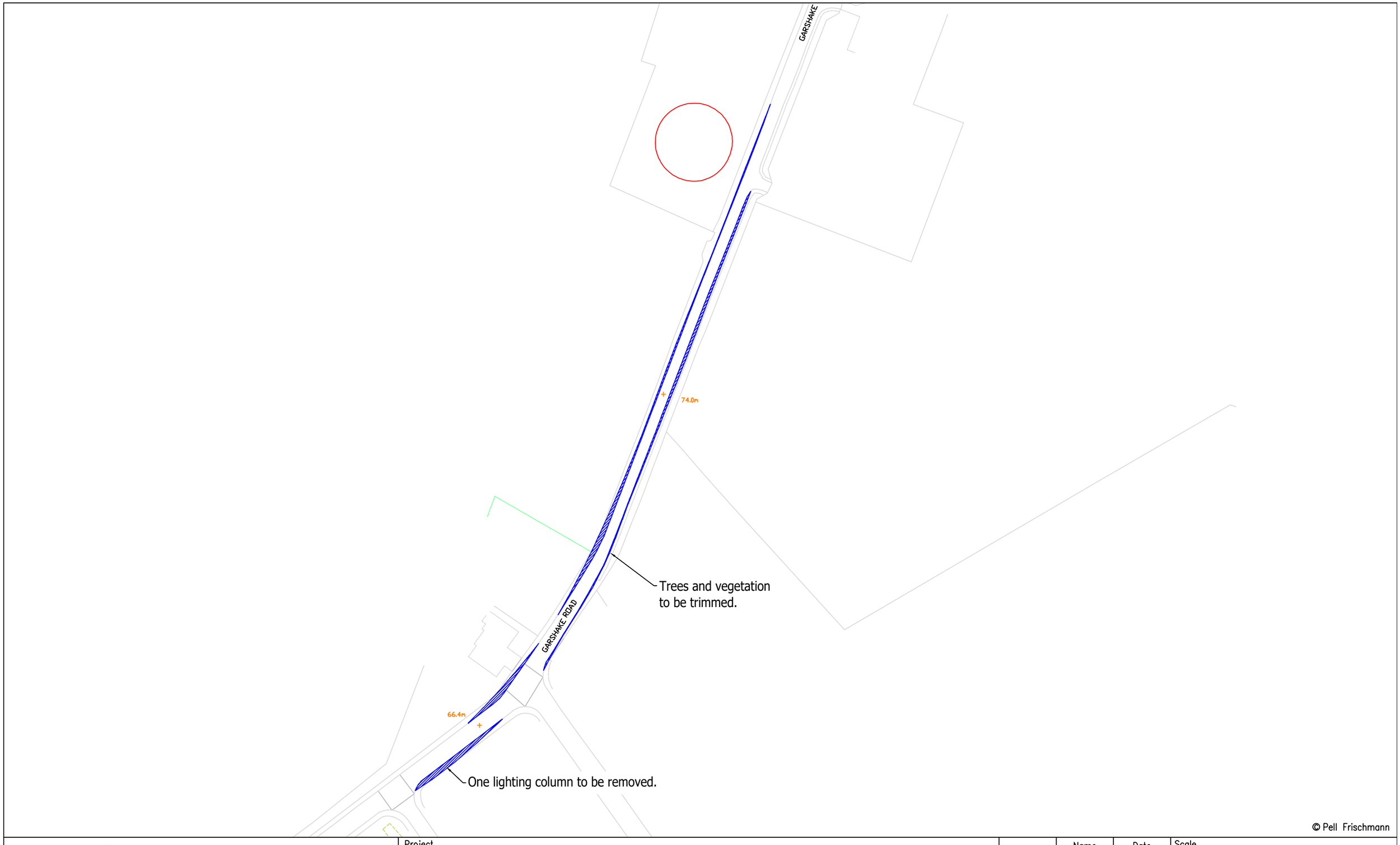
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK26

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Garshake Road Junction

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		39

Scale: 1:1250 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

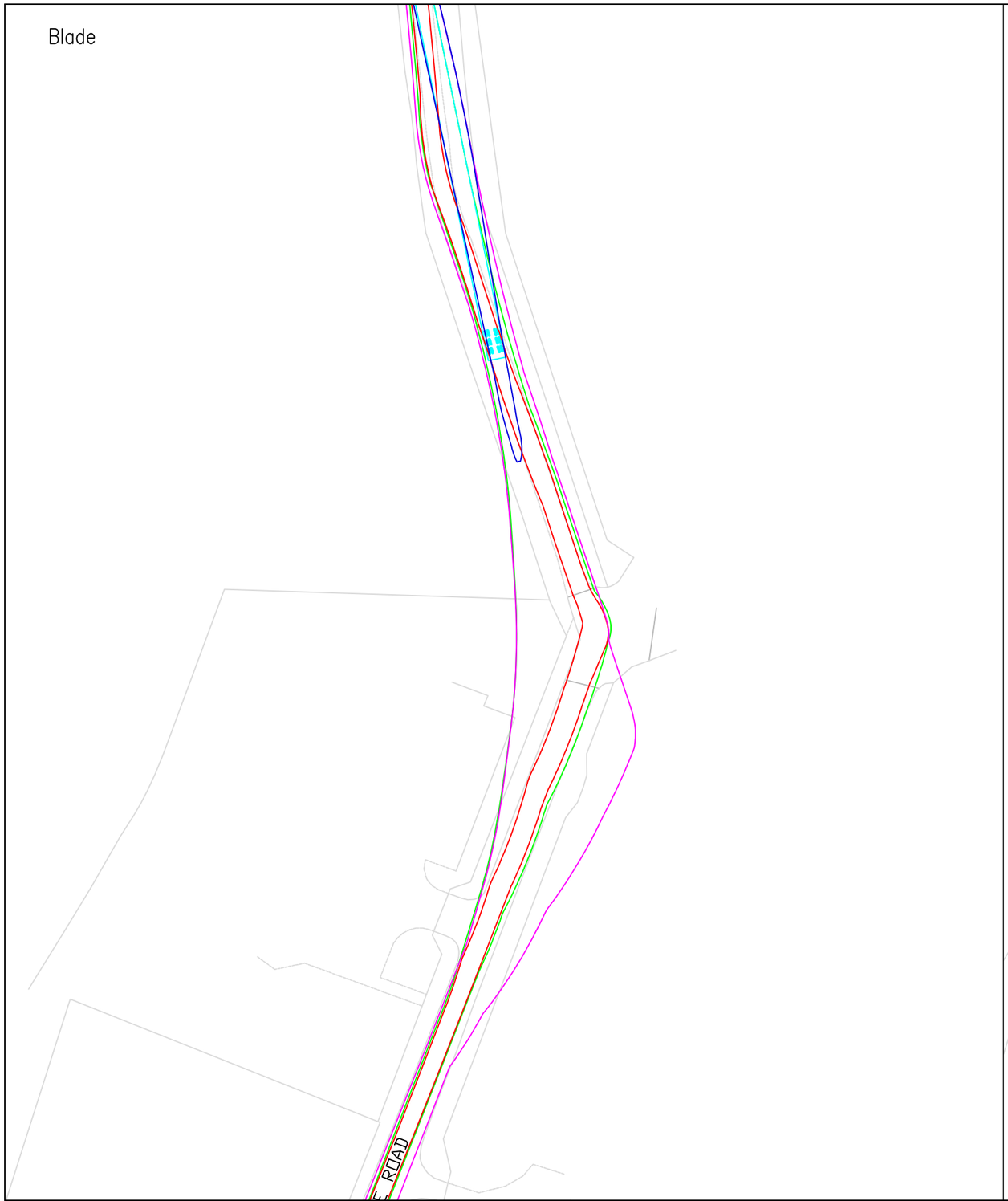
Drawing Status: Draft

Drawing No.: SK26A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Blade



Tower

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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Junction Option 3

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		41

Scale: 1:750 @ A3

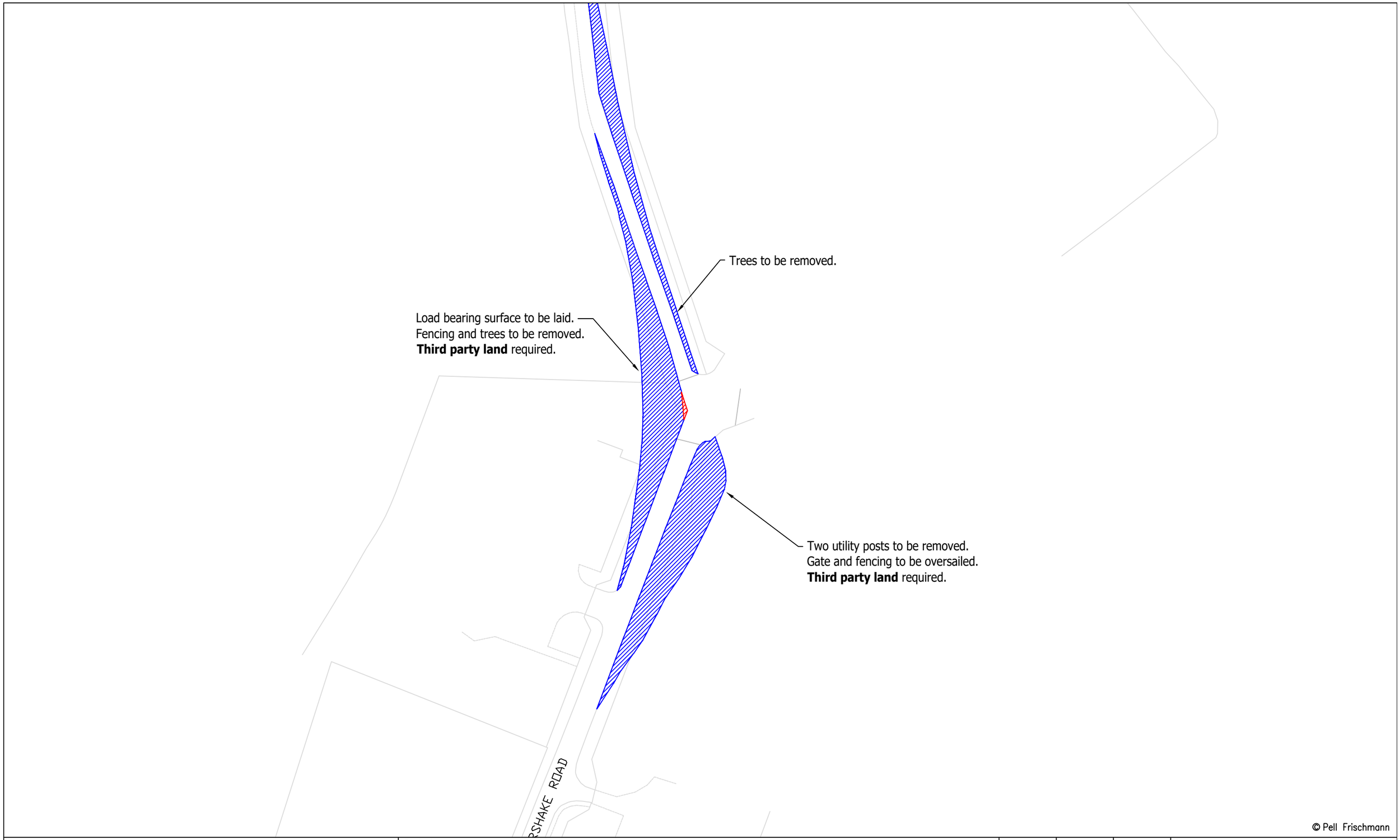
File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK27

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX



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Client: Coriolis

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Vale of Leven Wind Farm

Drawing Title: Vestas V162 Swept Path Assessment

SPA Location: Access Junction Option 3

	Name	Date
Drawn	SK	16/05/2022
Designed	SK	04/05/2022
Checked	GB	18/05/2022
Point of Interest		41

Scale: 1:750 @ A3

File No.: 106121 Vale of Leven Tracking.dwg

Drawing Status: Draft

Drawing No.: SK27A

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: XXX

Appendix C ESDAL Correspondence

From: [redacted]
Sent: 08 April 2022 12:47
To: [redacted]
Cc: [redacted]
Subject: RE: Vale of Leven Wind Farm (OFFICIAL)

OFFICIAL

Good afternoon [redacted],

Just a short reply to confirm that the proposed route review out of KGV Docks is acceptable to Glasgow City Council, with no structural issues present, at this time.

Kind Regards.

[redacted]

From: [redacted]
Sent: 07 April 2022 13:22
To: [redacted]
Subject: RE: Vale of Leven Wind Farm

Hi Gordon,

Thank you for your enquiry.

I have assessed all three routes, and can confirm that no Historical Railways Estate structures will be affected.

Therefore, no objections from me!

Kind regards

[redacted]

[redacted]

Abnormal Loads Officer (on behalf of **National Highways Historical Railways Estate**)

Jacobs

DDI: 0118 946 8911

From: SC Abnormal Loads <SCAbnormal.Loads@scottishcanals.co.uk>
Sent: 07 April 2022 09:43
To: [redacted]
Subject: RE: Vale of Leven Wind Farm

Good morning,

No Scottish Canals structures affected.

Thanks,

[redacted]

From: M8DBFO Abloads <M8DBFOAbloads@amey.co.uk>
Sent: 07 April 2022 07:13
To: [redacted]
Cc: M8DBFO Abloads <M8DBFOAbloads@amey.co.uk>
Subject: RE: Vale of Leven Wind Farm

On behalf of Scottish Roads Partnership

I have no comment to make on this movement as it does not enter our network which is for the purposes of potential routes between KGV and your destination is the M8 from J10 to J6, M73 whole length and M74 J3A to J6

Regards

[redacted] CEng MICE MCIHT

Principal Engineer | Structures | Amey Consulting

t: [redacted] | **mob:** [redacted] | **e:** [redacted]

Amey | Precision house | McNeil Drive | Motherwell | ML1 4UR