

Construction Traffic Management Plan.

**Planning Application for Battery Energy Storage System at
Land east of Perimeter Road, Knowsley.**

On behalf of Balance Power Projects Ltd.

Date: June 2025 | Pegasus Ref: P23-1730 TRO2



Document Management.

Version	Date	Author	Checked/ Approved by:	Reason for revision
TRO2	June 2025	LT	AS/KS	-

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1. Introduction

- 1.1. This Construction Traffic Management Plan (CTMP) has been prepared by Pegasus Group on behalf of Balance Power Projects Limited (the Applicant) to address the transport issues associated with the provision of a Battery Energy Storage System (BESS) on land to the east of Perimeter Road, Knowsley, Liverpool.
- 1.2. Access to the site during the construction and operational phases will be via an existing fieldgate access from Perimeter Road which will be widened and formalised as part of the proposals.
- 1.3. This CTMP has been prepared further to a detailed site visit carried out in September 2023 and subsequent to transport pre-application planning advice received from highway officers at Knowsley Council (KC) dated 31st October 2023. It describes the arrangements that are proposed for the period of construction and operational activities at the site and sets out the following:
 - i. Site access arrangements.
 - ii. Routing for construction traffic.
 - iii. Vehicle numbers, size and frequency; and
 - iv. Proposed mitigation, including condition surveys.
- 1.4. It will be the responsibility of the appointed contractor to comply with all statutory regulations and guidelines as appropriate, in relation to construction and movement activities.
- 1.5. The appointed contractors will be provided with a copy of the CTMP and will adhere to it and develop it as appropriate as part of the planning consent. The CTMP will form part of the information provided as part of construction personnel on-site induction processes. The contact details of the contractor, including a 24 hour emergency contact number, and those of the highway department at KC will be exchanged before commencement of the works on site.

2. Site Context

- 2.1. The site is located on land to the east of Perimeter Road, approximately 3.5 kilometres east of Kirkby and around 13 kilometres northeast of Liverpool city centre. The site is bound by open land to the north, east and south and Perimeter Road to the west. The site in its wider geographical context is shown at **Figure 2.1**.

Existing Access Arrangements

- 2.2. The site is currently accessed from an existing fieldgate which measures approximately 10 metres wide. The access is located approximately 460 metres north of the South Boundary Road/A5208 Coopers Lane/Molly's Lane roundabout and 60 metres south of the Matalan distribution warehouse Heavy Goods Vehicle (HGV) access.

Public Rights of Way

- 2.3. There are two Public Rights of Way (PRoW) routes that cross the site. PRoW footpath KB 19/1 routes east to west through the centre of the site, following the existing access track that connects onto Perimeter Road in the west. PRoW bridleway KB 18/3 routes north to south to the east of the site. Both PRoWs are shown in **Figure 2.1**.
- 2.4. Measures to manage and mitigate the impacts of the construction phase on the PRoW are set out in **Chapter 5**.

Local Highway Network

Perimeter Road

- 2.5. Perimeter Road is a single carriageway road measuring approximately seven metres wide. It is accessed from the northern arm of South Boundary Road/A5208 Coopers Lane/Molly's Lane roundabout in the south and connects to the North Perimeter Road/Moss End Way roundabout in the north.
- 2.6. It is subject to a 40mph speed limit which increases to 50mph approximately 40 metres north of the site access. Street lighting and a continuous footway is provided along the western side of Perimeter Road.
- 2.7. A Matalan distribution warehouse is located opposite to the site. The HGV access and general vehicle accesses are located approximately 60 metres and 220 metres north of the site access, respectively. Image Business Park is also served from Perimeter Road approximately 760 metres north of the site access. Both land uses and therefore Perimeter Road are already associated with existing HGV movements.

A5208 Coopers Lane

- 2.8. The A5208 Coopers Lane is a dual carriageway accessed from the southern arm of the South Boundary Road/A5208 Coopers Lane/Molly's Lane roundabout. It is subject to a 50mph speed limit and connects to the A580/Ormskirk Road via a signalised crossroad junction in the south.

A580 East Lancashire Road

- 2.9. The A580 East Lancashire Road is a dual carriageway accessed which routes west to east between Liverpool and Manchester. It is subject to a 50mph speed limit within the vicinity and provides a connection to the M57 Junction 4 approximately 1.7 kilometres west of its junction with the A5208. That junction is the closest connection to the Strategic Road Network to the site.

Highway Safety

- 2.10. Personal Injury Collision (PIC) data has been provided by Knowsley Council for the most five years of available between records September 2019 and August 2023. The study area for the search included the entire length of Perimeter Road. The data confirms that there were three incidents, resulting in three slight incidents recorded in the study area. The incidents are summarised below, and the full report and plot is contained at **Appendix A**. Accident records post August 2023 have been requested from the Council, although the data has not been received at the time of writing.
- 2.11. The first incident occurred on Thursday 7th of November 2019 at 06:00 approximately 425 metres north of the site access. The road surface was recorded to be flooded with rain high winds present. It was dark at the time of the incident, with no street lighting. The incident involved one car and appears to have occurred when the vehicle hit a large puddle causing the vehicle to aquaplane and collide with a fence off the carriageway. The incident resulted in one slight injury.
- 2.12. The second incident occurred on Wednesday 31st of March 2021 at 14:05 approximately 100 metres to the south of the site access. The road surface was dry and the weather was recorded to be fine without high winds. The incident involved two cars and involved a collision which resulted in one of the cars to flip over, resulting in one slight injury.
- 2.13. The third incident occurred on Tuesday 5th of April 2022 at 07:00 approximately 60 metres north of the site access. The road surface was recorded to be wet with rain present. The incident involved a car and a van and appears to have occurred when the van swerved into the opposing lane to avoid a collision with the vehicle in front of it, into the path of the oncoming car. This incident resulted in two slight injuries.
- 2.14. The PIC records indicate that there are no patterns or clusters associated with the incidents recorded and they appear to be the result of temporary driver error or misjudgement.
- 2.15. It is concluded that there are no highway safety patterns or problems with the local highway network in the immediate vicinity of the site.

3. Proposed Site Access Arrangements

- 3.1. Vehicular access to the site is proposed via an existing fieldgate access from Perimeter Road which will be widened and formalised, as shown in **Figure 3.1**.
- 3.2. Visibility splays of 2.4m x 120m are shown to be achievable to the nearside kerblines in both directions, commensurate with the Design Manual for Roads and Bridges (DMRB) for a 40mph road. The visibility splays will cross land within the Applicant's control.
- 3.3. The access will be provided with a four metre wide carriageway, with an 11 metre radii on the southern side of the bellmouth and a two metre radii on the northern side of the bellmouth. As set out in more detail at **Chapter 4**, construction vehicles will turn right in and left out of the site access only. All construction vehicles will enter and exit the site in a forward gear.
- 3.4. **Figure 3.1** shows a Swept Path Assessment (SPA) for a 16.5 metre long articulated HGV, the largest vehicle confirmed by the Applicant to be associated with this development, turning 'right in' and 'left out' of the access. This confirms that the largest vehicle can enter and egress the site without unduly impeding background traffic on Perimeter Road. If considered necessary by the highway authority, banksmen can be provided at the access to assist the largest HGVs entering and exiting the site.
- 3.5. The first 20 metres of the access will be provided with a hard bound surface. A gate will be provided to secure the site to the rear of the hard bound surface, which would allow for the largest vehicle size anticipated to be associated with the construction phase to be accommodated off the Perimeter Road carriageway. The gate will be hung to open inward only.

Construction Compound

- 3.6. A temporary construction compound will be located within the site which is shown indicatively at **Figure 3.2**. The exact location of the compound will be confirmed by the appointed contractor in due course. The compound will be suitable size for the largest construction vehicle to enter and turn in a forward gear.
- 3.7. A temporary car parking area (including spaces for minibuses) will also be provided on the site within the contractor's compound. Parking associated with the scheme will therefore be contained within the site and no unnecessary parking will occur on the local highway network.
- 3.8. The site will also include areas for the storage of plant and equipment associated with construction, meaning no loading, unloading or storage will occur on the local highway network.
- 3.9. If ground conditions dictate, wheel washing facilities will be provided within the construction compound to prevent vehicles taking mud and dirt on to the local highway network.

Operational Access

- 3.10. The proposed access point set out above will be retained for use by maintenance vehicles once the site is operational.
- 3.11. As set out in **Chapter 5**, once operational it is anticipated that maintenance vehicles will access the site around once per month. Maintenance trips will generally be made by 4x4 or a small van type vehicle. Whilst the contractor's compound will have been removed, space will remain within the site for vehicles to turn around to ensure that reversing will not occur onto the adjacent highway.

Public Right of Way

- 3.12. As set out at **paragraph 2.3**, PRoW routes footpath KB 19/and bridleway KB 18/3 cross the site. Both PRoWs are proposed to remain open during the construction and operational phases with appropriate mitigation measures implemented, including warning signage and banksmen. Further details are provided in **Chapter 7**.

Fire Access

- 3.13. The National Fire Chiefs Council (NFCC) have produced the Grid Scale Battery Energy Storage System Planning Guidance document which provides advice on the development of BESS sites within the UK. The site has been designed with this guidance in mind and **Figure 3.3** shows a swept path assessment of 7.7 metre long Fire Tender within the internal layout entering and exiting the BESS compound.
- 3.14. It is proposed that the emergency access track along the northern perimeter of the BESS compound will be comprised of a grasscrete type material.

4. Proposed Construction Traffic Route

- 4.1. The BESS components will be shipped in 40ft containers which are typically carried to the site on 16.5 metre long articulated HGVs. The 237KV substation will be required to be transported to the site via an Abnormal Indivisible Load (AIL) sized vehicle due to its size/weight.
- 4.2. The designated route for construction traffic associated with deliveries to access the site from the Strategic Road Network is shown at **Figure 2.1** and summarised below:
- i. Exit the M57 at Junction 4 turning onto Moorgate Road South before turning east onto the A580.
 - ii. Continue east on the A580, wherefrom vehicles will turn north onto the A5208.
 - iii. Head north on the A5208 to the South Boundary Road/Perimeter Road/Molly's Lane roundabout, taking the second exit onto Perimeter Road; and
 - iv. Access the site from Perimeter Road.
- 4.3. There are no signed height or weight restrictions or schools along the proposed route and no road closures are anticipated to be required.
- 4.4. The construction route will be utilised in reverse for construction vehicles exiting from the site.
- 4.5. The arrival and departure of the AIL to the site will be subject to a detailed AIL assessment to be undertaken in due course by a specialist AIL consultant. The applicant has confirmed that the proposed access arrangement, described at **paragraph 3.3**, has been designed to accommodate the AIL delivery.

Construction Route Mitigation

- 4.6. A delivery system will be timetabled and managed by the Site Manager to avoid any conflict between arriving/departing HGVs arriving to and departing from the site. As discussed further in **Chapter 5**, it is anticipated that there will be on average around two deliveries per day by HGVs which is not considered to be material in real terms.
- 4.7. Construction vehicles will only access the site via the designated construction route identified in this CTMP for arriving and departing vehicles, as appropriate. Use of the route for the temporary construction phase is considered appropriate, subject to a condition survey (see **Chapter 6**).

An appropriate signage scheme will be put in place for HGV drivers to follow. Drivers will be informed of the route prior to departing for the site and will be advised not to use Sat-Navs to reach the site.

5. Vehicle Trip Attraction

- 5.1. The Applicant has confirmed that the construction of the BESS will take approximately nine to 12 months to complete. This includes the preparation of the site, internal access tracks, erection of security fencing, assembly and erection of the substations and switchgears, installation of the inverters and batteries and grid connection.
- 5.2. A temporary construction compound will be provided for storage, parking for contractors and the turning of HGVs. Parking will therefore be contained within the site and no parking is anticipated to occur on the local highway network.
- 5.3. The location of where staff will travel from is unknown at this stage as it will depend on the appointed contractor. Workforce vehicles will be kept to a minimum and van sharing and minibuses will be utilised where possible.
- 5.4. The construction period will include the use of HGVs to bring equipment onto the site and this will be strictly managed to ensure that vehicle movement is controlled and kept to a minimum. The proposed BESS facility will consist of:
 - i. 66 x Battery units.
 - ii. 33 x inverter and transformer units.
 - iii. 1 x 132KV substation, including a high-voltage transformer
 - iv. 1 x private substation.
 - v. 1 x DNO room.
 - vi. 1 x Control room and welfare.
 - vii. 1 x storage room.
 - viii. Approximately 550 metres of access track (anticipated to be crushed/compacted stone), inclusive of the site compound.
 - ix. Approximately 225 metres of grasscrete (or similar) associated with the emergency access); and
 - x. Security and acoustic fencing.
- 5.5. It is anticipated that the following HGV movements could be associated with the construction of the development, as set out in **Table 5.1**. More precise vehicle trip numbers will be confirmed within a Full CTMP in due course. It is considered that the provision of a Full CTMP can be secured via an appropriately worded planning condition.

Table 5.1 – Heavy Goods Vehicle Movements

Activity	Max. Vehicle Size	Total Number of Deliveries	Two-way movements
Battery Units	16.5 metre long Articulated HGV	66	132
Inverters & Transformers		33	66
High Voltage 132kv Transformer		10	20
Private Substation		1	2
DNO Room		1	2
Control Room and Welfare		1	2
Storage Room		1	2
Contractors Compound		12	24
Site Clearance		4	8
Foundation Materials		100	200
Access Tracks	10m Rigid	35	70
Cut and Fill (plus 10% contingency)		22	44
General	Front End JCB	1	2
Total		287	574

- 5.6. In addition to the HGV movements identified in **Table 5.1**, there will also be a small number of construction movements associated with smaller vehicles such as the collection of skips for waste management, the transport of construction workers and sub-contractors.

5.7. Construction activities at the site will vary throughout the course of the construction phase. Assuming a worst case 9–12 month construction phase there is anticipated to be:

- **Phase 1** – Enabling works (two to three months – 54–64 working days)
Site clearance, soil stripping and construction of internal access tracks.
- **Phase 2** – Main construction phase (five to six months – 108–144 working days)
Construction of foundations, trenches, ducting for cables and delivery of battery containers and associated equipment.
- **Phase 3** – Post construction (two to three months – 54–64 working days)
Installing CCTV, lighting and landscaping.

Enabling Works Phase

- 5.8. The initial phase of construction consists of enabling works which are expected to last for around nine to 11 weeks. The enabling works consist of site clearance, stripping of soils, creation of bunds (using the excavated material), construction of internal access track, surfacing of site area and setup of site compound.
- 5.9. It is anticipated that circa 400m³ of material will be required to be brought in from off site for cut and fill exercise. It is anticipated that the extra material will be brought to the site by 10 metre long tipper trucks with an approximate load size of 20 tonnes.
- 5.10. It should be noted that, whilst cut and fill is calculated in cubic metres, material is measured in tonnes. By way of comparison, as a rule of thumb, one tonne of infill generally equates to about one cubic metre.
- 5.11. Therefore, the circa 400m³ required for fill equates to 400 tonnes of material required to be transported to site and 20 10-metre/20 tonne tipper trucks. Allowing for a 10% contingency, it is estimated that there could be 22 vehicles associated with the cut and fill exercise at the site.
- 5.12. This is anticipated to be completed by the Front End JCB, which will remain on-site once delivered.

Main Construction Phase

The main phase of construction is expected to last for around 18–27 weeks and includes civils work such as pouring of foundations, cutting of any trenches and laying of ducting, installation of battery storage containers and equipment, and installation of cabling and grid connection.

Post Construction Phase

- 5.13. The post construction phase is anticipated to last for around nine to 11 weeks and includes installation of fencing and CCTV equipment, removal of welfare facilities, and any remedial landscaping works.

Operational Phase

- 5.14. Once operational, there are anticipated to be two trips per month by a 4x4 vehicle or small van for maintenance purposes. Whilst the contractor's compound will have been removed, a parking area will remain within the site for vehicles to turn. The infrequency of these trips will have an immaterial impact on the local highway network and there will be no intensification of the use of the access compared to the existing land use.

Summary

- 5.15. Assuming a nine month construction period as a worst case and a six day working week (216 days), it is anticipated that there will be an average of around two HGV (four two-way movements) per day. It is anticipated that greater activity will take place in the earlier months (enabling and construction phases) associated with the delivery of construction materials. The later months would be associated with smaller vehicle sizes such as vans and Light Goods Vehicles.
- 5.16. There will also be construction workers arriving at the site first thing in the morning and departing in the evening, although the numbers involved are forecast to be relatively low on a day-to-day basis and minibuses will be provided for general operatives. The level of traffic during the temporary nine to 12 month construction phase is not considered to be material and it is considered that this will not have a detrimental impact on the safety or operation of the local highway network.

6. Proposed Mitigation Measures During the Construction Phase

HGV Management

- 6.1. The arrival and departure of HGVs at the site will be strictly managed by the Site Manager. Drivers will adhere to a delivery schedule and will be required to call ahead to ensure that any emerging HGVs can be held within the construction compound. No HGVs will be permitted to wait on the public highway.
- 6.2. No construction traffic associated with deliveries to the site will be permitted to turn right out of the site access and signage will be placed within the site advising drivers of this. This will ensure that all construction traffic proceeds to / from the Strategic Road Network as soon as possible.
- 6.3. Banksman will direct large construction vehicles from/to the south and drivers will be advised not to use Sat-Navs to reach the site.

Signage

- 6.4. Temporary signage will be erected in the vicinity of the proposed access on Perimeter Road during the construction phase. Diagram 7301 'WORKS TRAFFIC ONLY' in the Traffic Signs Regulations and General Directions (TSRGD) will be used to indicate that heavy construction vehicles are turning. Signage will be white text and red background 1050 x 750mm mounted in 'A' frames, as illustrated at **Appendix B**.

Dust and Dirt

- 6.5. Wet wheel washing facilities will be provided within the site before vehicles exit on to the unnamed access track and the wider highway network. At this stage it is anticipated to be in the form of a pressure washer designed to prevent mud and dirt entering the public highway.

PRoW Management

- 6.6. The two PRoWs within the site are proposed to remain open during the construction phase with no requirement for temporary or permanent diversions as a result of the scheme. All management and mitigation measures set out within this report will be implemented prior to construction activities at the site commencing.

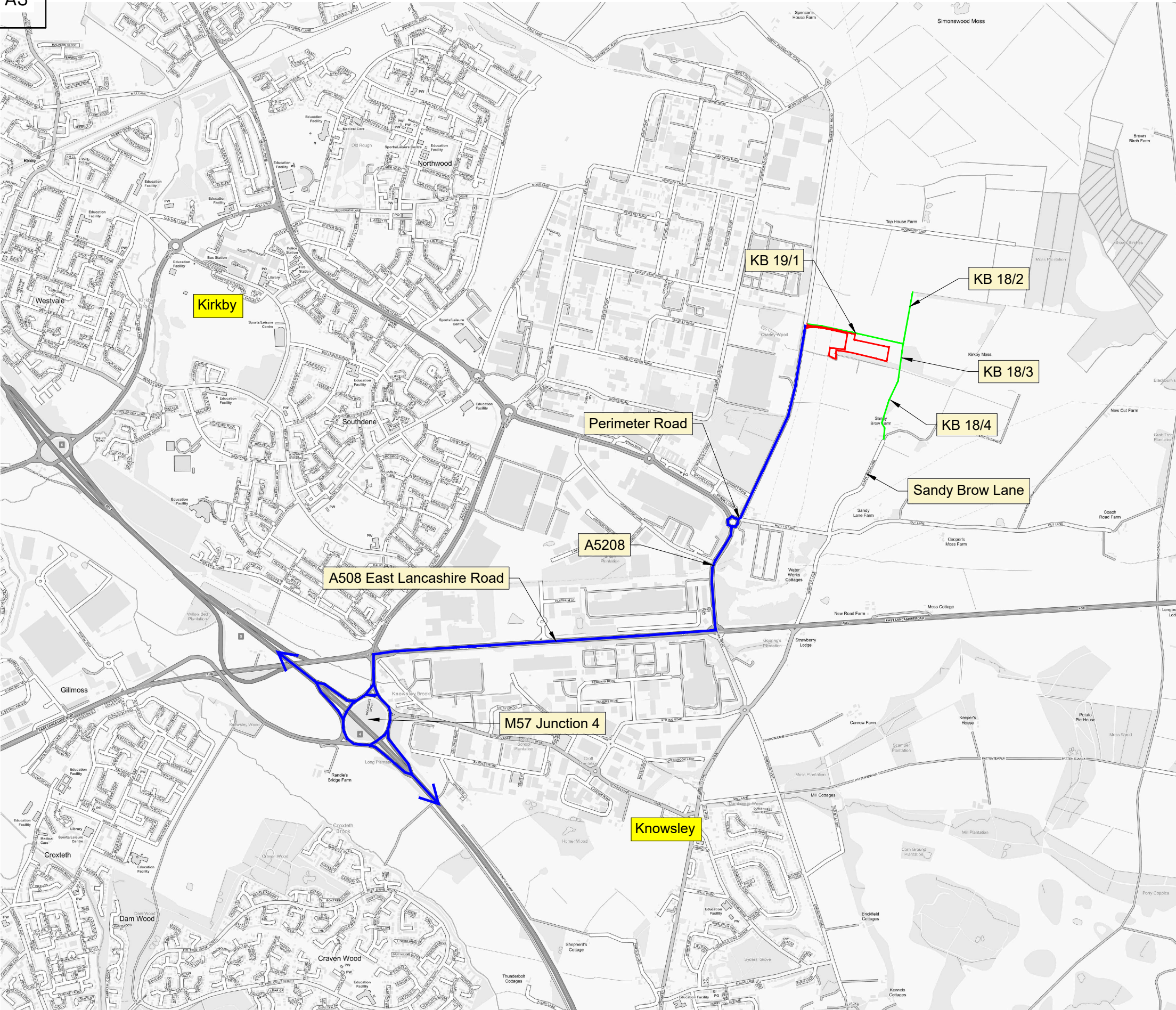
- 6.7. Mitigation and management procedures will be put in place where the PRowWs cross through the site. These measures will include:
- i. when construction plant and machinery are accessing the site, a banksman will be employed to control both pedestrian movements and HGV traffic. Banksmen will ensure that users of the PRow always have priority.
 - ii. where possible fencing will be placed along the PRow routes where they cross the site with gated sections in the vicinity of the internal access tracks. Vehicles will only be permitted to cross the PRow at designated crossing points; and
 - iii. signage will be erected at each end of the affected PRowWs in the vicinity of the site boundary advising users of ongoing construction activities at the site. Further signage will be positioned on the approach to both sides of each crossing point for both construction traffic and PRow users.
- 6.8. Once the development is operational, the PRowWs will not be obstructed by any fencing and the definitive widths and alignments will be retained.
- 6.9. As set out in **Chapter 1**, the contact details of the contractor and those of the highway department at KC will be exchanged before commencement of works on site.

Condition Survey

- 6.10. A pre-commencement Walk-Over Condition Survey on the local highway network will be carried out to assess the baseline condition of the adopted highway before construction activities commence. At this stage it is envisaged that the extents of the survey will be within the vicinity of the site access point and Perimeter Road south of the access.
- 6.11. The survey will incorporate a photographic record as appropriate. An invitation to attend the survey will be extended to the highway authority at KC and a date for this survey will be agreed before construction activities commence.
- 6.12. This would be followed by a further Condition Survey with a further photographic record covering the same extents as previously assessed at the end of construction activities, in order to identify and agree any remedial works reasonably attributable to construction activities. A date for this survey will be agreed once construction of the site is complete.



Figures



- Key:
- Approximate Site Boundary
 - Construction Traffic Route
 - Approximate Public Right of Way Route

DD.MM.YY				
REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY

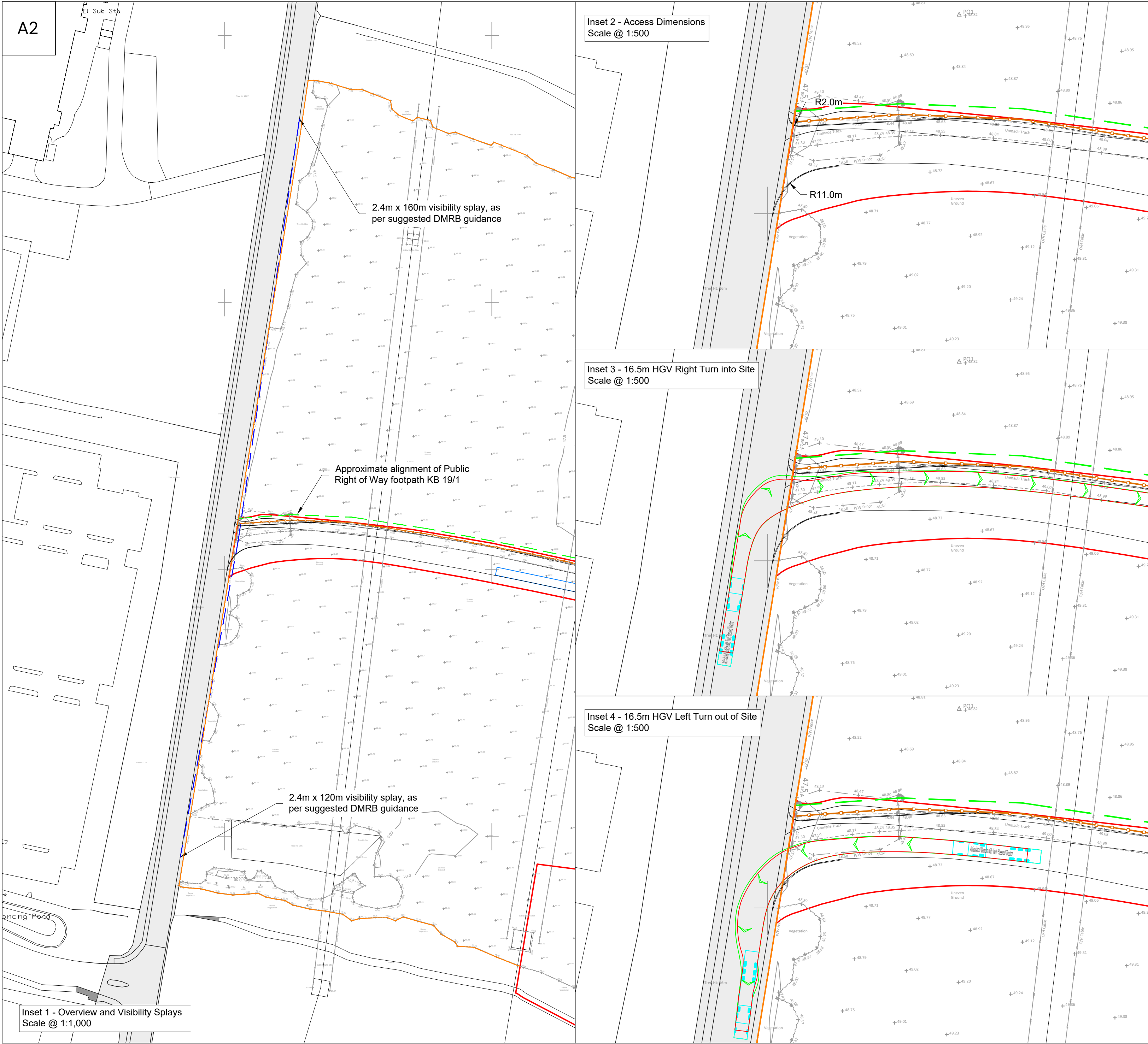
SITE LOCATION AND PROPOSED
CONSTRUCTION TRAFFIC ROUTE

LAND EAST OF PERIMETER ROAD
KNOWSLEY

CLIENT:
BALANCE POWER PROJECTS LTD

DATE:	SCALE:	DRAWN/CHECKED BY:	APPROVED BY:
31/03/2025	NTS	JAN	KS

JOB NUMBER:	DRAWING NUMBER:	REVISION No:	PEGASUS GROUP
P23-1730	FIGURE 2.1	-	



Inset 2 - Access Dimensions
Scale @ 1:500

Inset 3 - 16.5m HGV Right Turn into Site
Scale @ 1:500

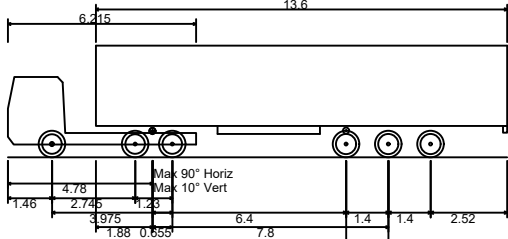
Inset 4 - 16.5m HGV Left Turn out of Site
Scale @ 1:500

Inset 1 - Overview and Visibility Splays
Scale @ 1:1,000



- Key:
- Approximate Option Boundary
 - Approximate Extent of Land within Applicant's Control
 - Approximate Extent of Adopted Highway Boundary
 - Public Right of Way KB 19/1
 - Indicative 2m buffer from PRoW
 - Design Manual for Roads and Bridges (DMRB) Visibility Splay

- Notes:
- Adopted highway and Public Right of Way alignment provided by Knowsley Council on 30.08.2023
 - Vehicle tracked at default forward speed of 5mph.



Articulated Vehicle with Twin Steered Tractor
Overall Length 16.500m
Overall Width 2.550m
Overall Body Height 3.691m
Min Body Ground Clearance 0.426m
Max Track Width 2.500m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 6.987m

REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY
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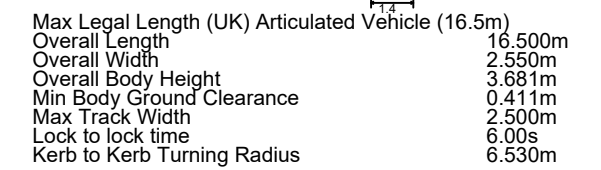
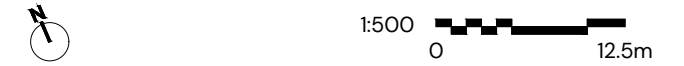
PROPOSED ACCESS ARRANGEMENTS

LAND EAST OF PERIMETER ROAD KNOWSLEY

CLIENT:
BALANCE POWER PROJECTS LIMITED

DATE: 31/03/2025
SCALE: AS SHOWN
DRAWN/CHECKED BY: AS
APPROVED BY: KS

DRAWING NUMBER: P23-1730 FIGURE 3.1
REVISION No: -
PEGASUS GROUP

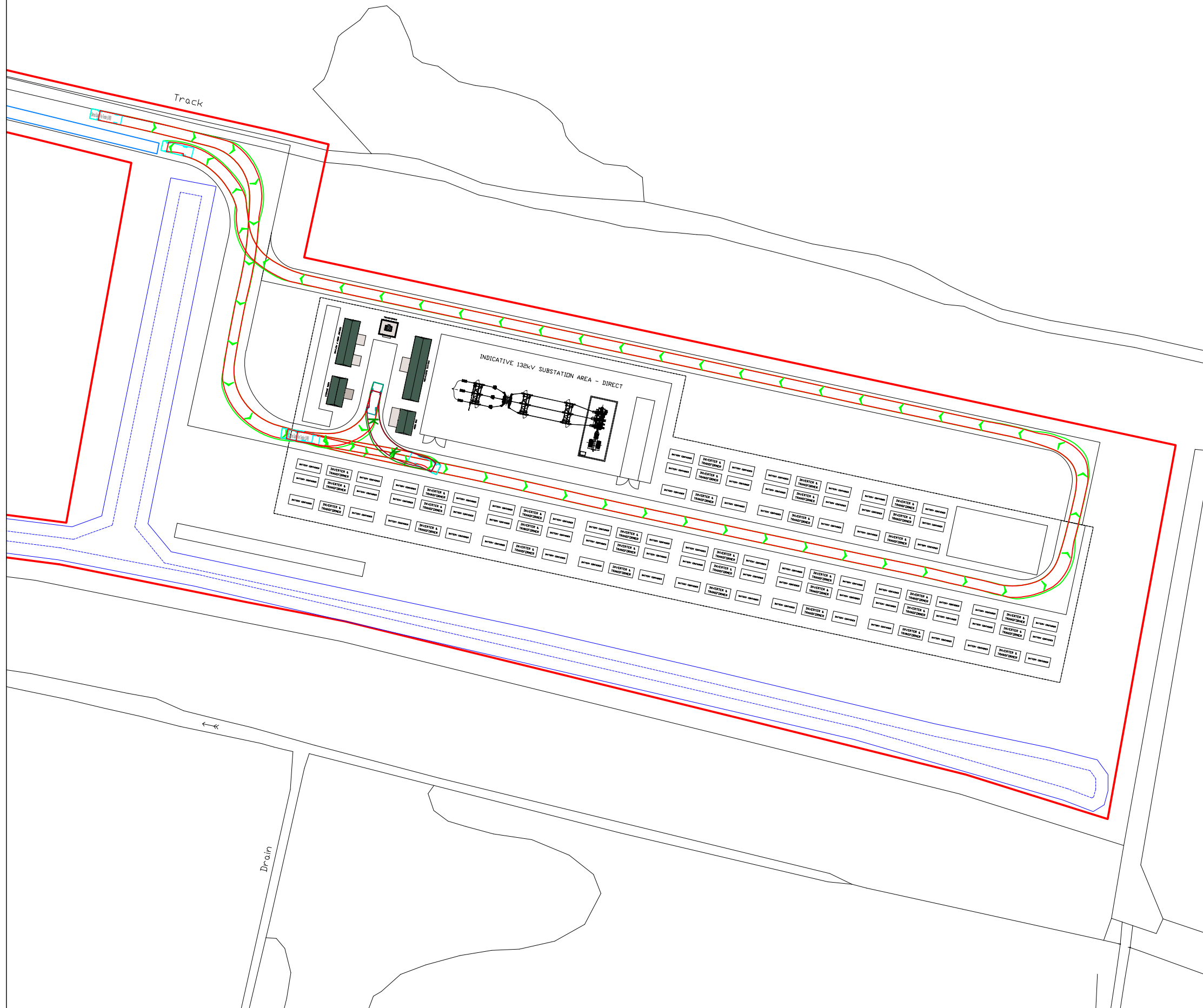


1. Vehicle tracked to default forward speed of 5mph.

INDICATIVE TEMPORARY
CONSTRUCTION COMPOUND

CLIENT:
BALANCE POWER PROJECTS LIMITED

JOB NUMBER: P23-1730 DRAWING NUMBER: FIGURE 3.2 REVISION No: **PEGASUS GROUP**

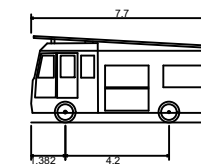


Key:



Site Red Line Boundary

Vehicle tracked at default forward speed of 5mph
and reversing speed of 2.5mph.



Dennis Sabre Fire Tender (LWB)
Overall Length 7.700m
Overall Width 2.430m
Overall Body Height 3.512m
Min Body Ground Clearance 0.397m
Track Width 2.380m
Lock to lock time 5.00s
Kerb to Kerb Turning Radius 7.400m

DD.MM.YY					
REV	DATE	DESCRIPTION		REVISED BY	APPROVED BY

SWEPT PATH ASSESSMENT OF A 7.7 METRE LONG FIRE VEHICLE

LAND EAST OF PERIMETER ROAD
KNOWSLEY

CLIENT: STATUS:
BALANCE POWER PROJECTS LIMITED SKETCH

DATE: 31/03/2025 SCALE: 1:1,000 DRAWN/CHECKED BY: LT APPROVED BY: KS

JOB NUMBER: P23-1730 DRAWING NUMBER: FIGURE 3.3 REVISION No: -





Appendix A



NOTES

KEY

Rev.	Revision Details	Rev by	Chk by	Date:

Regeneration and Economic Development Directorate
Stretton Way, Whiston, Liverpool, L36 6JF

Drawing Title Accident Data Perimeter Road 5 Year		
Drawn by	e-mail	daniel.morgan@knowsley.gov.uk
Approved by	Telephone	0151 443
Date	Sheet 1 of 1	
Scales NTS	Drawing No. PR/100/01	Phase / Revision A

Perimeter Road - Report - 5 Year

No.	Area L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street					
1	E08000011	1912871	Slight	Thursday	07/11/2019	06:00	344048/398810							
Location: PERIMETER ROAD SEGMENT PERIMETER ROAD 1st Rd: U 2nd Rd:														
Speed	C'Way	Jct Det/Ctrl	Lighting	Weather		Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
50 MPH	Single c'way	NotJCT	Dark/no lights	Rain Wind		Flood	None	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/	
1	Car	No	Going ahead	SE	NW On main	Not at	No	None	N/s & reboun	Wall or fe	Male	30	-v	
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil				
1	1	Drv/Rider	Male	30	Slight	No	Not ped	Not ped	Not ped	Other				
Description: VEH1 TRAVELLING ALONG AN UNLIT CARRIAGEWAY AND THERE WAS A LARGE PUDDLE CROSSING BOTH SIDES OF THE CARRIAGEWAY. VEH HAS NOT BEEN ABLE TO SEE IT AND HAS AQUAPLANED HITTING THE FENCE TO MATALAN DISTRIBUTION. DRIVER SUFFERED SLIGHT INJURIES.														
User Information: Contributory Factors: 103V001A														

2	E08000011	2100498	Slight	Wednesday	31/03/2021	14:05	343992/398233							
Location: PERIMETER ROAD SEGMENT PERIMETER ROAD 1st Rd: U 2nd Rd:														
Speed	C'Way	Jct Det/Ctrl	Lighting	Weather		Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
40 MPH	Single c'way	NotJCT	Daylight	Fine		Dry	None	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/	
1	Car	No	Going ahead	W	E On main	Not at	No	None		None	Male	44	-v	
2	Car	No	Going ahead	S	N On main	Not at	OT	None	Nearside	Lamp	Male	38	-v	
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil				
1	2	Drv/Rider	Male	38	Slight	No	Not ped	Not ped	Not ped	Other				
Description: V001 COLLIDES WITH V002 CAUSING IT TO OVER TURN.														
User Information: Contributory Factors: 405V001A 406V001A														

3	E08000011	2200874	Slight	Tuesday	05/04/2022	07:00	343994/398365							
Location: PERIMETER ROAD SEGMENT PERIMETER ROAD 1st Rd: U 2nd Rd:														
Speed	C'Way	Jct Det/Ctrl	Lighting	Weather		Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
30 MPH	Single c'way	NotJCT	Daylight	Rain		Wet	None	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/	
1	Van/Goods < 3.	No	Going ahead	N	S On main	Not at	No	None		None	Male	27	-v	
2	Car	No	Going ahead	S	N On main	Not at	No	None		None	Male	41	-v	
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil				
1	1	Drv/Rider	Male	27	Slight	No	Not ped	Not ped	Not ped	Other				
2	2	Drv/Rider	Male	41	Slight	No	Not ped	Not ped	Not ped	Other				
Description: V001 HAS BEEN TRAVELING DOWN PERIMETER ROAD TOWARDS KIRKBY WHEN VAN INFRONT HAS BEGUN TO BRAKE FOR A CAR INFRONT OF HIM. V001 HAS NOT LEFT A BIG ENOUGH SPACE TO SAFELY STOPP SO SWERVES INTO OPPOSING CARRIGEWAY TO AVOID A COLLISION.. V002 HAS BEEN TRAVELING AWAY FROM KIRKBY AND V001 HAS HIT IT.														
User Information: Contributory Factors: 307V001A 408V001A 409V001A														



Appendix B



1. Temporary Construction Traffic signage (Diagram 7301 'WORKS TRAFFIC' in the TSRGD)

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