中国电建 POWERCHINA | SEPD 上海电力设计院有限公司 SHANGHAI ELECTRIC POWER DESIGN INSTITUTE CO., LTD.

Wollar Solar Development Pty Ltd

Wollar Solar Farm

Haulage Plan

Stage 3B Part 2

DOCUMENT HISTORY				
	NAME	**POSITION**	**DATE**	**Signature**
Created by	Alexander Wenzel	Logistics Manager	19/05/2023	
Reviewed by	Jianan Li	Project Manager	19/05/2023	
Approved by	Jeff Hilder	Project Manager	19/05/2023	
REVISION:	**DATE:**	**REVISION DESCRIPTION:**		
1.0	28/04/2023	Initial draft.		
2.0	18/05/2023	Reformatted and restructured.		
2.1	19/05/2023	Minor amendments.		

Contents

1. Purpose

Shanghai Electric Power Design Institute (SEPD) has been nominated to undertake and/or manage the delivery and installation of the mechanical, electrical and PV Module components for the 346 MW DC Wollar Solar Farm Construction Project being developed by Wollar Solar Development Pty Ltd, with Sunterra Energy acting as EPC-M and principal contractor for the project.

These works are part of stage 3B of the project works and are for the transportation of the major procurement items, which are described as follows with their estimated containerised quantities:

Supplier	Material	Est Container Quantity	Container Type	Port Of Export	Port of Import	Incoterms
Atec	Mechanical tracker	900	40HQ	Tianjin	Sydney	FOB
Jinko	PV modules	440	40HQ	Ningbo	Sydney	DDP
JA Solar	PV modules	440	40HQ	Ningbo	Sydney	DDP
Huawei	Inverters	39	40HQ	Tianjin	Sydney	FOB
TBA	Transformer	80	40OT	TBA	Sydney	FOB
TBA	Assorted cables	126	40HQ	TBA	Sydney	FOB
TBA	Combiner boxes	15	40HQ	TBA	Sydney	FOB

Total Containers	**2040**

All containers are planned to be imported via Port Botany, Sydney and destuffed within Sydney and Newcastle metropolitan areas and transported to Wollar Solar Farm via the road network. All freight is planned to be within weight and dimension limits to not require any over dimensional or overweight permits.

This plan has been created considering the Development Consent Conditions, legislation, industry best practices, project specific requirements, approvals and details the control measures in place to mitigate the identified risks.

The intended readership of this document is local and state governments, logistics service providers, client project team, project partners, local landholders and industry and any other parties that may interface with and/or be reasonably directly impacted by this importation operation.

2. Summary of Project Specific Haulage Restrictions

This section provides a summary of the applicable specific project limitations outlined in the Conditions of the Development Consent and Traffic Management Plan (TMP).

2.1. Heavy Vehicle Movement Limits

As per MOD 3 determined August 2022 Schedule 3 Condition 1 of the Development Consent, the project must ensure that:

a) The development does not generate more than
   - 36 AV/B-double vehicle movements a day during construction, upgrading and decommissioning.
   - A combined total of up to 72 movements per day for vehicles ranging from medium rigid to AV/B-double.

b) The length of any vehicle (excluding over dimensional) must not exceed 26 metres unless the Secretary agrees in writing.

A vehicle movement is defined as one vehicle entering and leaving site.

2.2. AV-B Double Approved Routes

The Development Consent Schedule 3 Condition 3 states that all over dimensional and AV/B-double associated with the development must travel to and from via:

a) Golden Highway, Ulan Road, Ulan-Wollar Road, Barigan Street, Maitland Street, Wollar Road and Barigan Road and/or

b) Castlereagh Highway, Ulan Road, Ulan-Wollar Road, Barigan Street, Maitland Street, Wollar Road and Barigan Road.

It is not planned to utilize any oversize or over mass loads for this portion of the works and as such, no permitting is required via the National Heavy Vehicle Regulator (NHVR).

2.3. Project Access Route Map

As per the project Environmental Impact Statement (EIS) and National Heavy Vehicle Regulator (NHVR) the route has been assessed as suitable to project requirements. All required works required to be undertaken on public roads associated with the project have been completed to the satisfaction of the local roads authority, Mid Western Region Council (MWRC).

Please note that all vehicles associated with this haulage plan are AV/B-Doubles and will follow the below approved AV/B-Double route.

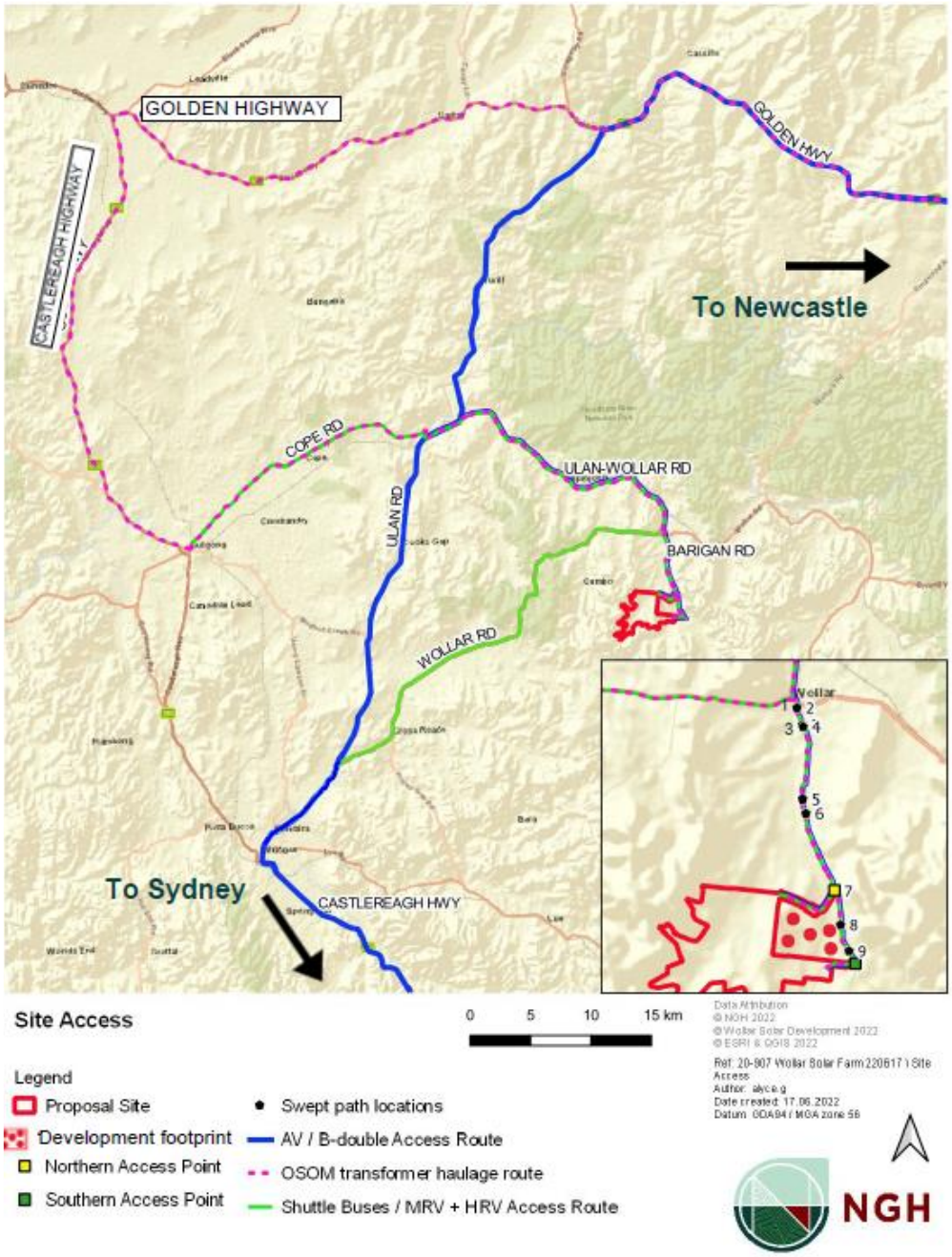


Image 1. Approved AV/B-Double Access Routes

The proposed routes of access to Wollar Solar Farm are conditionally approved B-Double routes as per Transport for NSW (TfNSW) as part of the General Mass Limits (GML) and Concessional Mass Limits (CML) networks.

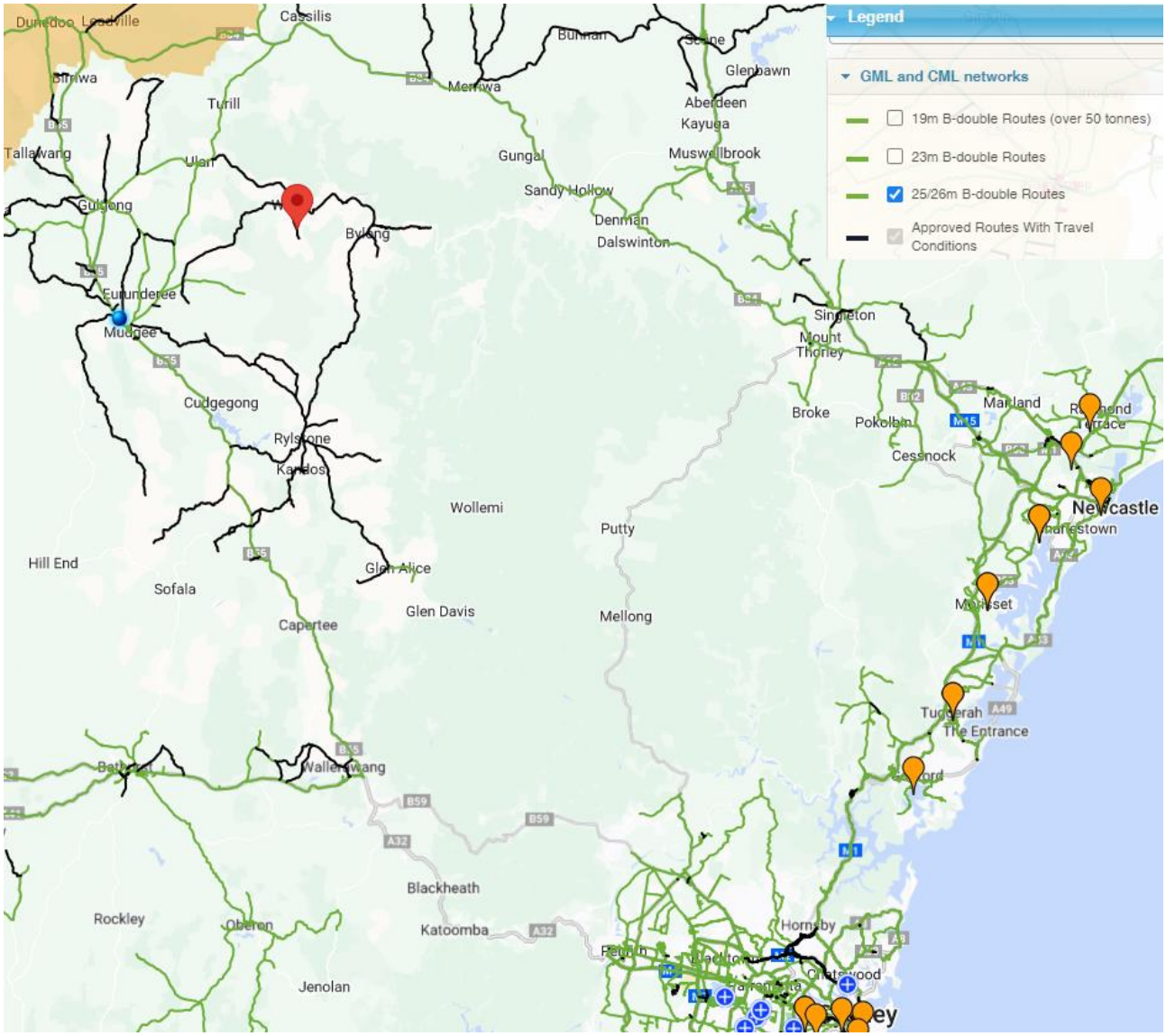


Image 2. TfNSW Approved GML/CML 25/26m B-Double Routes

3. Summary of Local Interfaces

This section provides a summary of the interactions and connections with the surrounding local areas that have been considered within this plan.

3.1. Route Conditions

The following conditions apply to the approved route as per TfNSW:

Road Name: ULAN WOLLAR ROAD
Start Point: MR213 ULAN ROAD
End Point: GOULBURN ROAD, WOLLAR
Publish Date: 20/05/2011
Conditions: 80km/hr B-Double speed limit on sealed section. 60km/hr B-Double speed limit on unsealed section. Outside school bus operation times.

Road Name: WOLLAR ROAD
Start Point: BOTOBOLAR ROAD
End Point: "MURRUMBO" JUST WEST OF LGA BOUNDARY
Publish Date: 20/05/2011
Conditions: 80km/hr B-Double speed limit. Outside school bus operation times.

Road Name: BARIGAN ROAD
Start Point: MR208 WOLLAR ROAD
End Point: TICHULAR ROAD
Publish Date: 20/05/2011
Conditions: A maximum speed limit of 60km/h applies.

These conditions and associated map are available at: https://roads-waterways.transport.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-accessvehicles-map/map/index.html

3.2. Cumulative Impact

The Environmental Impact Statement (EIS), Modification 3 report, and Traffic Impact Assessment have evaluated the road capacity to handle the traffic generated by the Wollar Solar Farm, confirming its adequacy. The solar farm major procurement importation works are estimated to require 23 AV/B-Double movements daily, which is lower than the 36 AV/B-Double movements specified in the Development Consent.

3.3. Local Interactions

The Haulage Plan, including the projected quantities of truck movements, will be communicated to the nearby mining operations 2 weeks prior to commencement of deliveries.

It is acknowledged that Ulan and Ulan-Wollar Roads may experience increased traffic volumes during shift changeovers at the local mines. All deliveries are planned to be slotted, this should not amount to any more than 3 AV/B-Doubles per hour for any given hour from 0700 to 1700. As a result, minor disruption is expected due to these importation works.

3.4. School Bus Route and School Zone Interactions

It is known that the Mudgee School bus route MA02 overlaps with the approved haulage route in the vicinity of and within Wollar Township. This bus runs Monday-Friday, mornings and afternoons during the school term.

School buses transit Arulen Road, Ulan-Wollar Road and into Wollar township to the bus stop at Wollar Service Centre between the times of 7:25am to 7:34am and 4:40pm to 4:50pm.

Ogden's COACHES

School Timetable

MA02
Wollar AM

Monday to Friday
(Except Public Holidays)

A1	Araluen Road	7:25am
A2	Wollar Service Centre	7:34am
A3	Cnr Wollar/Cumbo Roads	7:40am
A4	Cnr Cooyal Lane/Wollar Road	7:55am
A5	Cnr Ulan/Wollar Road	8:13am
B1	Cnr Mulgoa Way/Julia Court	8:22am
S1	St Matthews Catholic School Senior Campus	8:40am
S2	Cudgegong Valley Public School	8:45am
S3	Mudgee High School	8:50am
S4	Mudgee Public School	8:53am
S5	St Matthew's Catholic School Junior Campus	9:00am

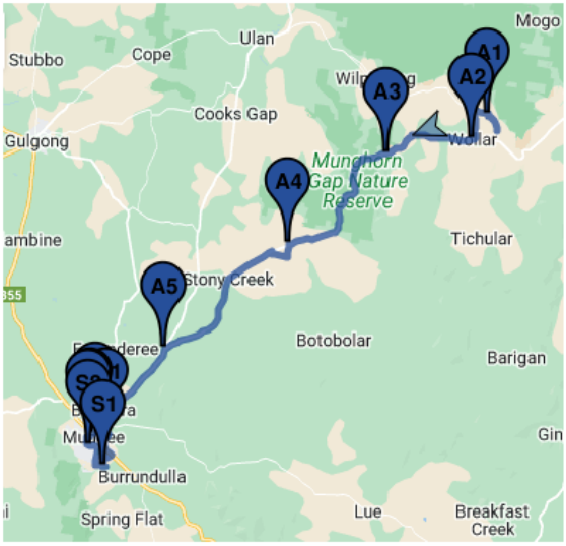


Image 3. Wollar AM Bus Schedule

School Timetable

MP02
Wollar PM

Monday to Friday
(Except Public Holidays)

S1	ST Matthew's Catholic School Senior Campus	3:15pm
S2	Cudgegong Valley Public School	3:25pm
S3	Mudgee High School	3:30pm
S4	Mudgee Public School	3:32pm
S5	St Matthews Catholic School	3:34pm
A1	Cnr Mulgoa Way/Julia Court	3:37pm
A2	Cnr Mortimer/Lawson Streets	3:45pm
A3	Cnr Wollar/Ulan Roads	4:02pm
A4	Cnr Wollar Road/Kurtz Lane	4:12pm
A5	Cnr Cooyal Lane/Wollar Road	4:25pm
B1	Cnr Wollar/Cumbo Roads	4:30pm
B2	Wollar Service Centre	4:40pm
B3	Araluen Road	4:50pm

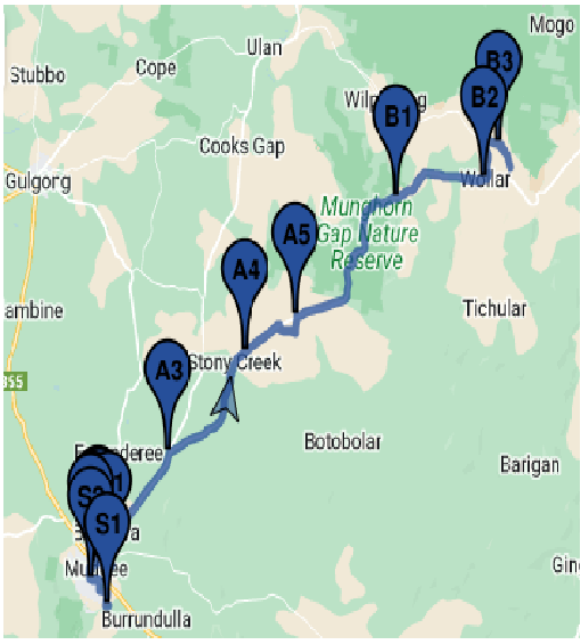


Image 4. Wollar PM Bus Schedule

Timetables will be periodically checked at https://www.ogdenscoaches.com.au/timetables/.

Major procurement delivery AV/B-Doubles will be slotted to avoid interactions with school bus route during the listed times. Drivers will be made aware of the school bus times and be provided with clear instructions.

The school located in Wollar township is currently in recession and is non-functioning, which has been the case since 2018. This has been observed by project personnel and confirmed via the Rural Schools NSW hotline. School zone signs related to this school are also covered over.

3.5. Rail Crossings

There are three identified rail crossings on Ulan-Wollar Road, with most easterly two being level rail crossings:

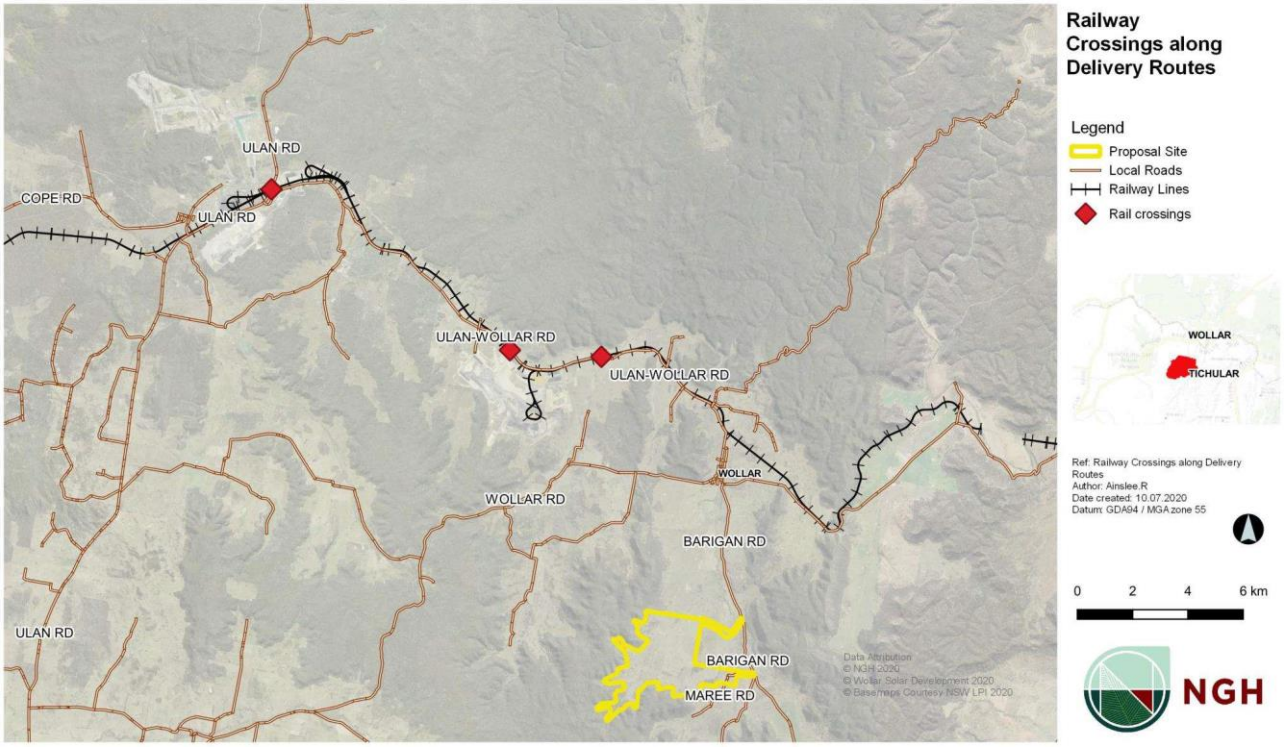


Image 5. Ulan-Wollar Road Rail Crossings

Construction traffic will be required to cross and interact at the two level crossings on Ulan Wollar Road. It is expected that all traffic will abide by the road rules and slow down upon approach to allow for adequate braking distance in the event rail crossing lights are activated.

All road traffic is expected to give way to rail movements. All road traffic associated with the material importation operation is anticipated to in gauge and within weight limits and is not expected to impact rail operations. All drivers will be made aware of the level rail crossing locations.

4. Site Delivery Schedule Overview

		Delivery Stream						
Week Start	Week Number	Mech + Elec 1	Mech + Elec 2	Jinko 3	JA 4	Total Containers Per Week	Average Daily Containers	Cumalative Containers
12-Jun	24	58				58	12	58
19-Jun	25	58				58	12	116
26-Jun	26	58				58	12	174
3-Jul	27	58		44		102	21	276
10-Jul	28	58		44		102	21	378
17-Jul	29		58	44		102	21	480
24-Jul	30		58	44		102	21	582
31-Jul	31		58	44		102	21	684
7-Aug	32		58	44		102	21	786
14-Aug	33		58	44		102	21	888
21-Aug	34	58		44		102	21	990
28-Aug	35	58		44		102	21	1092
4-Sep	36	58		44		102	21	1194
11-Sep	37	58			55	113	23	1307
18-Sep	38	58			55	113	23	1420
25-Sep	39		58		55	113	23	1533
2-Oct	40		58		55	113	23	1646
9-Oct	41		58		55	113	23	1759
16-Oct	42		58		55	113	23	1872
23-Oct	42		58		55	113	23	1985
30-Oct					55	55	11	2040
	Totals	**580**	**580**	**440**	**440**	**2040**		**2040**

4.1. Transport Methodology

As per the associated Development Consent Definitions, an AV/B-Double is defined as an articulated vehicle that has a combined Gross Vehicle Mass or Aggregate Trailer Mass of up to 62.5 tonnes. This definition includes both General Access Semitrailers ≤19m and Class 2 B-Doubles ≤26m heavy vehicles.

The imported containers are intended to be destuffed in Sydney and Newcastle metropolitan areas via third party logistics (3PL) providers. Once this has occurred, it is the intention to make use of both Semitrailers and B-Doubles for the delivery of materials to Wollar Solar farm with preference for B-Doubles where practicable. B-Doubles can carry a greater quantity of material per heavy vehicle movement and therefore reduce the total quantity of AV/B-Double vehicle movements required for the project.

Heavy Vehicle Type	Max Vehicle Length	General Mass Limit	Container Equivalent Quantity
Semitrailer	19m	42.5t	1
B-Double	26m	62.5t	1.5

Delivery operations will be conducted Monday-Friday 0700-1700 and Saturday 0800-1300. This is to be reviewed as and when required and adjusted accordingly, provided it complies with project noise restrictions.

The applicant is required to maintain precise records of the daily ingress and egress of over-dimensional vehicles, AV/B-Double vehicles, as well as medium and/or heavy rigids throughout the project's duration.

It is planned that the importation operation will generate up to 23 AV/B-double movements per day, which is less than the allowable total of 36 AV/B-Double vehicle movements allowable per day for the project.

5. Heavy Vehicle Movement Register

A detailed register will be maintained at the security checkpoint to site. It will record the quantity of heavy vehicle movements entering and exiting site.

Date of Entry	Time of Entry	Time of Exit	Vehicle Rego	Vehicle Type	Goods Description

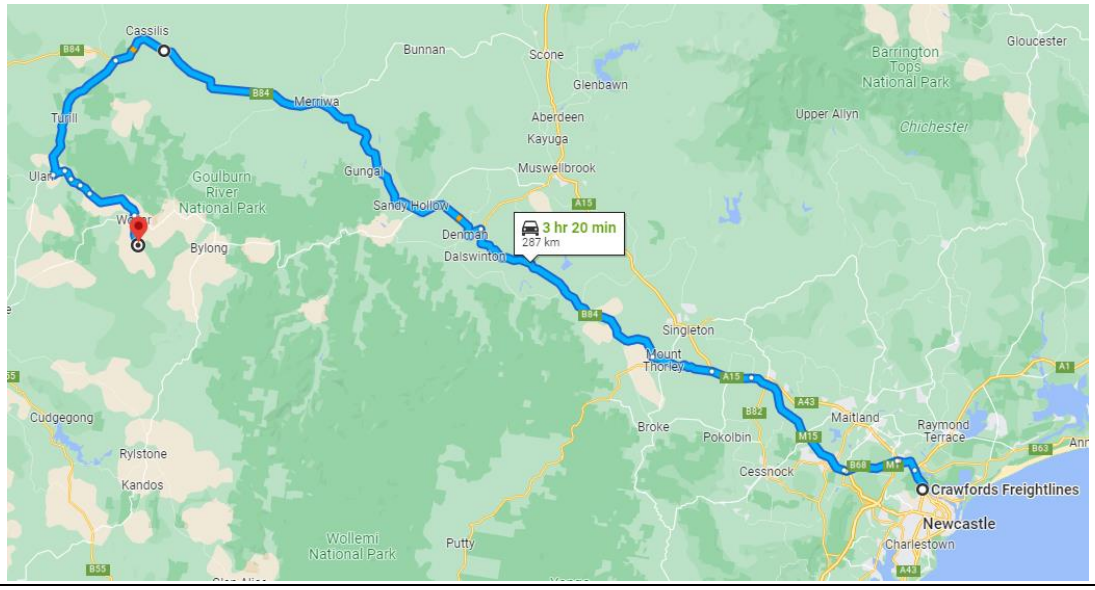
6. Wollar Solar Farm Major Procurement Haulage Activities

This section details the specific haulage activities per delivery stream.

6.1. Delivery Stream 1 – Mechanical and Electrical Items

Haulage activities will be required for import of mechanical and electrical items from Port Botany to site. These containers are railed to Newcastle, destuffed with the materials moved to site via the approved routes.

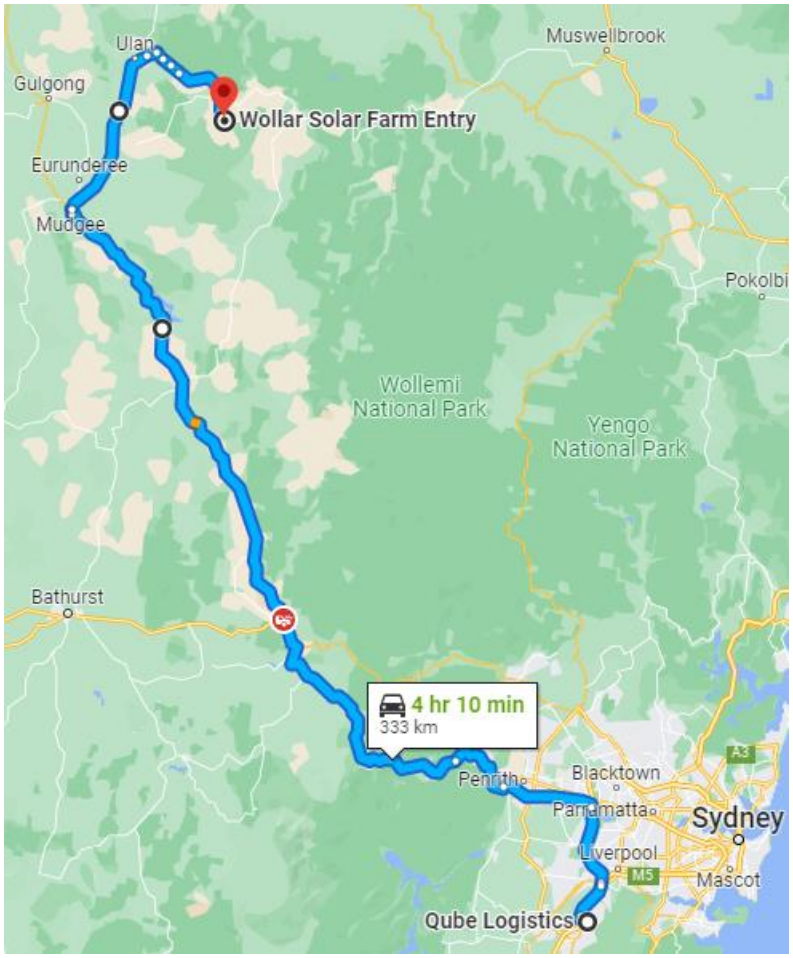
Materials will include pallets, steel H beam, steel tubing, cable drums, transformers and other electrical items.

Load	580 destuffed containers of Mechanical and Electrical items
Quantity	Approximately 580 over a 15 week period from June to September
Truck Type	Semitrailer and B-Double classified as AV/B Double under the Development Consent
Origin	Old Maitland Road, Sandgate NSW 2304
Destination	Wollar Solar Farm, 516 Barigan Road, Wollar NSW 2850
Map	

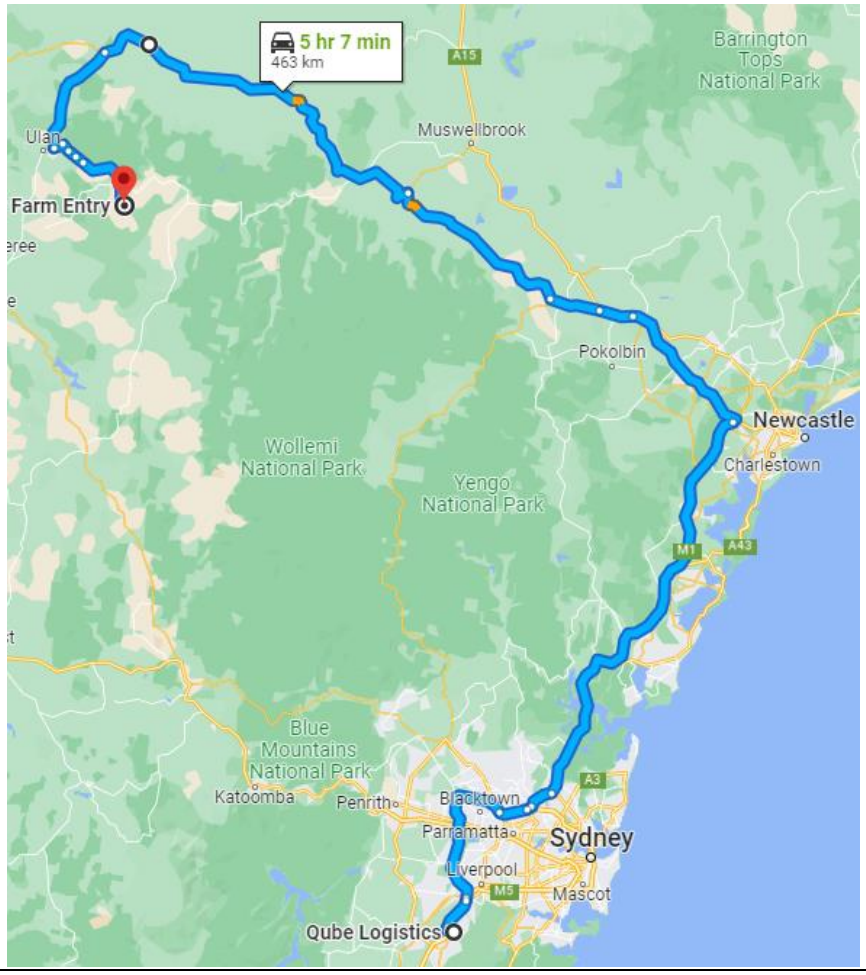
6.2. Delivery Stream 2 – Mechanical and Electrical Items

Haulage activities will be required for import of mechanical and electrical items from Port Botany to site. These containers are railed to an intermodal facility in Sydney, destuffed with the materials moved to site via the approved routes. This may include both Semitrailers and B-Doubles, which will travel on different routes.

Materials will include pallets, steel H beam, steel tubing, cable drums, transformers and other electrical items.

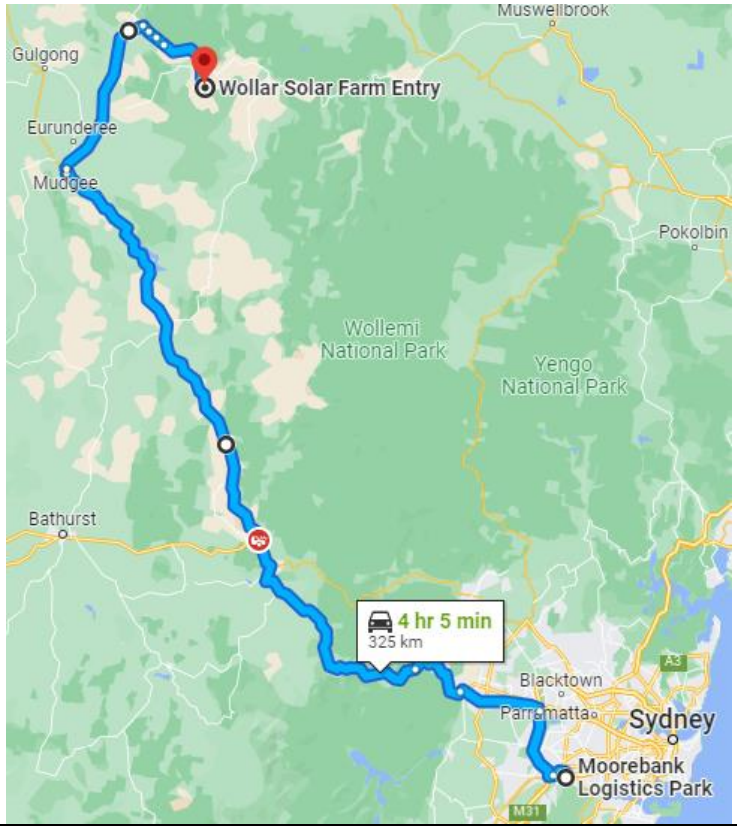
Load	580 destuffed containers of Mechanical and Electrical items
Quantity	Approximately 580 over a 15 week period from July to October
Truck Type	Semitrailer and B-Double classified as AV/B Double under the Development Consent
Origin	9 Stonny Batter Road, Minto NSW 2566
Destination	Wollar Solar Farm, 516 Barigan Road, Wollar NSW 2850
Semitrailer Map	

B-Double Map


5 hr 7 min
463 km
A15
Barrington Tops National Park
Muswellbrook
Ulan
Farm Entry
Pokolbin
Newcastle
Charlestown
Wollemi National Park
Yengo National Park
M1
A43
Blue Mountains National Park
Katoomba
Penrith
Blacktown
A3
Parramatta
Sydney
Liverpool
M5
Mascot
Qube Logistics

6.3. Delivery Stream 3 – Jinko PV Modules

Jinko has been engaged as a supplier of PV modules for Wollar Solar Farm under DDP terms. They are planning to use the Moorebank Logistics Precinct as their destuffing location and transport the PV module pallets via Semitrailers.

Load	440 destuffed containers of Jinko PV modules
Quantity	Approximately 440 over a 10 week period from July to September
Truck Type	Semitrailer classified as AV/B Double under the Development Consent
Origin	Moorebank Intermodal Precinct, Moorebank NSW 2304
Destination	Wollar Solar Farm, 516 Barigan Road, Wollar NSW 2850
Map	

6.4. Delivery Stream 4 – JA Solar PV Modules

The logistics service provider contract for this delivery stream has yet to be awarded. This section will be updated when the information becomes available.

Load	440 destuffed containers of Mechanical and Electical items
Quantity	Approximately 440 over a 15 week period from June to September
Truck Type	Semitrailer and B-Double classified as AV/B Double under the Development Consent
Origin	TBA
Destination	Wollar Solar Farm, 516 Barigan Road, Wollar NSW 2850
Map	TBA

7. Traffic Control Plan

A traffic control plan (TCP) is currently in place on Barigan Road. This TCP was put into place by project partners, A1 Earthworx, as part of the over dimensional haulage activities associated with the Transgrid substation construction project, which is now complete. Therefore, it is expected that no additional Road Occupancy Licence will be required for this Haulage Plan.

The TCP will remain in place as a road safety measure on the S bend for the duration of all major site deliveries, including but not limited to this scope.

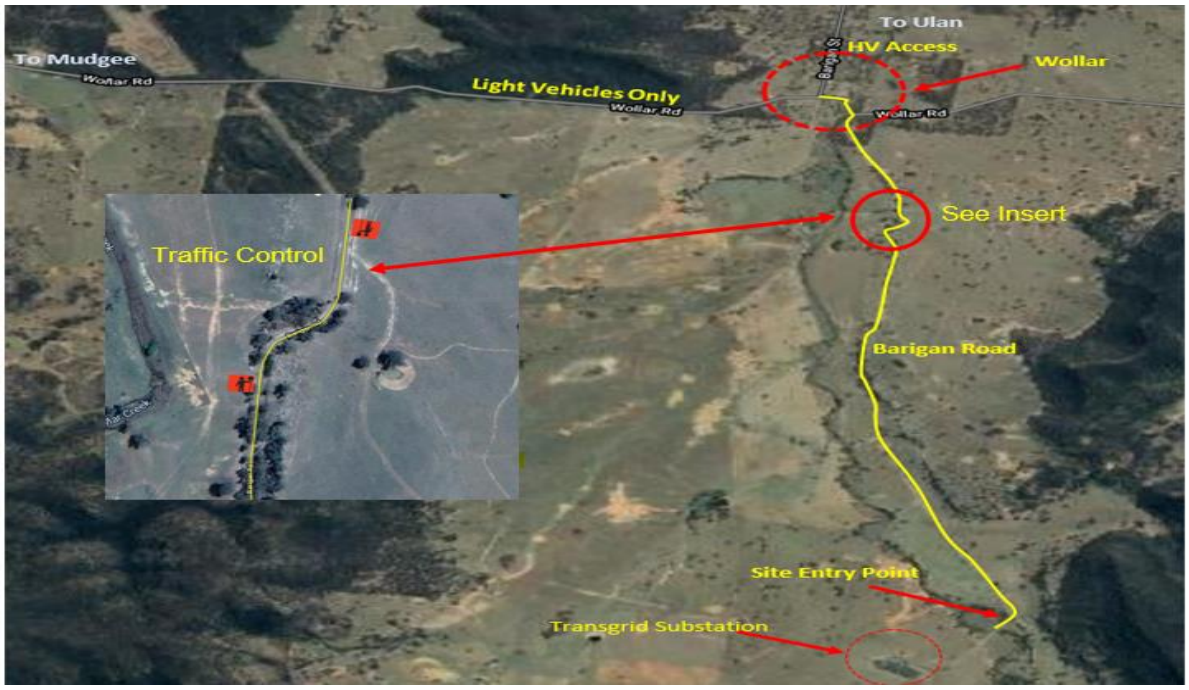


Image 6. Traffic Control Plan Location

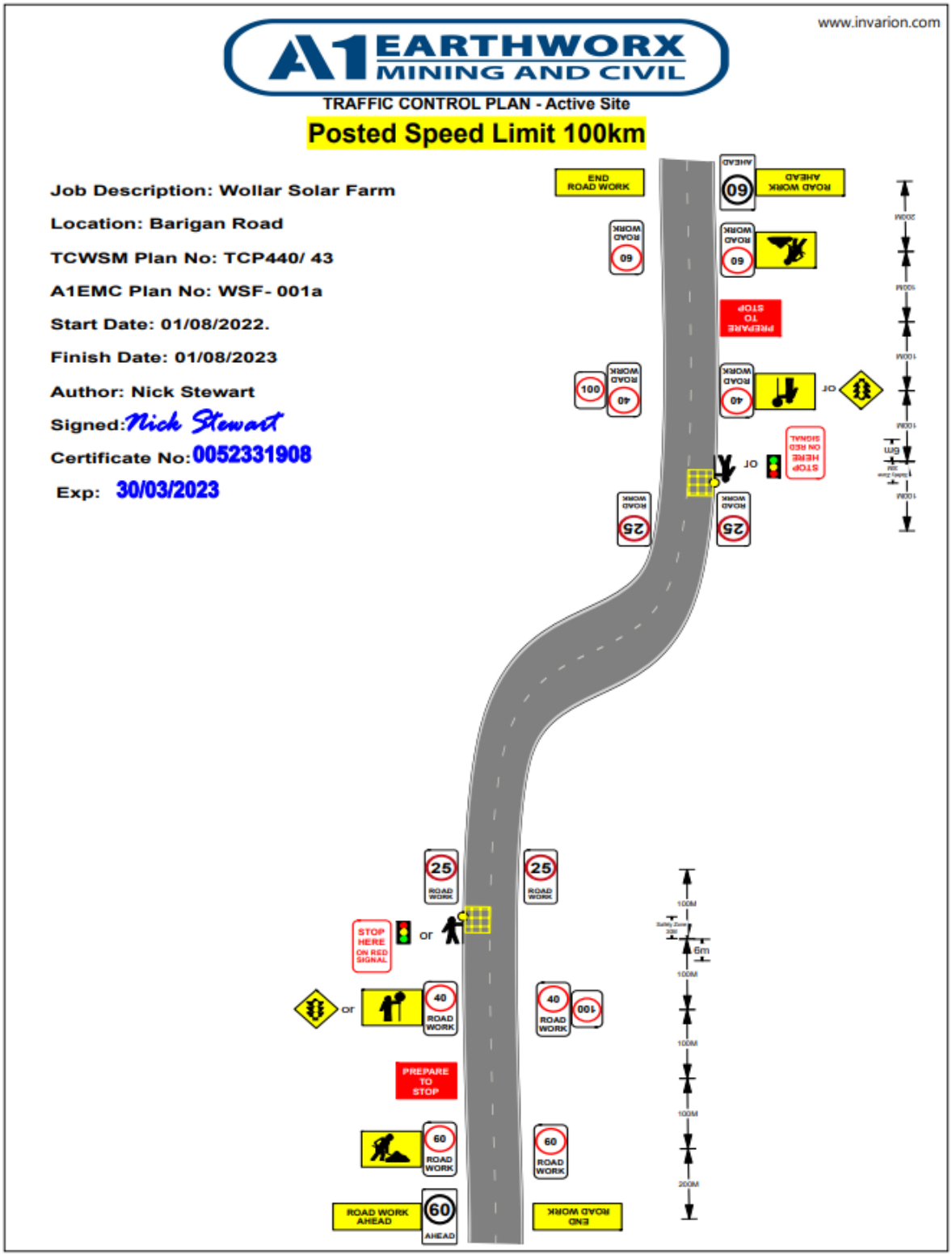


Image 7. Traffic Control Plan

8. Drivers Code of Conduct

Penalties and Disciplinary Measures

- Non-compliance with this Driver Code of Conduct will result in the issuance of a warning notice or the implementation of disciplinary actions.

Code of Conduct Induction

- All contractors must complete an induction process for the 'Drivers Code of Conduct' and provide a signed declaration indicating their understanding and commitment to comply with the document's requirements.

Safe Driving Practices

- Drivers must possess a valid and up-to-date driving license for the corresponding vehicle class they operate.
- Prior to commencing their shift, drivers must inform their employer if they are unfit for duty.
- Adjust driving behaviour according to road and weather conditions.
- Drive defensively to prevent accidents.
- Take regular breaks during long journeys. Drivers of medium/heavy vehicles, over-dimensional vehicles, and AV/B-Double vehicles must adhere to the maximum work and minimum rest requirements as outlined in the Heavy Vehicle (Fatigue Management) National Regulation (NSW).
- Ensure vehicles are operated and maintained in accordance with the manufacturer's recommended standards.
- Exercise caution while braking, considering load weight, weight distribution, and road conditions.

Speed Restrictions

- Adhere to posted speed limits and advisory signs, which provide crucial information about road conditions.
- Reduce speed in wet, dry, or dusty conditions.
- Exercise caution in fog or heavy rain.
- Descend hills at the designated truck speed or in the lowest gear suitable for the conditions.
- Observe special speed limits in areas such as roadworks and internal access roads within the construction site.
- Do not exceed the posted maximum speed.
- Avoid speeding near schools, school buses, parks, shopping areas, etc.
- Adhere to any additional route conditions as per TfNSW GML and CML network map.

Designated Routes

- All vehicles associated with the project must use Wollar Road and Barigan Road, entering and exiting through the approved site entry point.
- Local residential streets must not be used by trucks and heavy vehicles.
- Drivers should adhere to the defined routes, except in exceptional circumstances.
- Exceptional circumstances include blockages on the normal route (e.g., due to flooding) or a revised route approved in writing.

Vehicle Recording

- Drivers are responsible for ensuring that their movement is logged in the Vehicle Movement Register.
- Project delivery vehicles will have vehicle tracking management systems where reasonably practicable.