APPENDIX U OSOM TRANSPORT ROUTE ASSESSMENT

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The Plains R.E.P.

OSOM Route Study

Date:	March 2024
Client:	Aref Taleb
	Engie Aust & NZ
Type:	Physical Survey
Rev:	7

Silverton WF

Silverton WF is located 600 klms from the Port of Entry and had several challenges, including gradients in excess of 25 degrees.

The Plains R.E.P.

Route Study

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The Plains Renewable Energy Park is a newly proposed large-scale development that aims to harness wind and solar energy to provide cheap, reliable and clean electricity for homes and businesses in NSW. The renewable energy park will include the construction of an integrated wind and solar farm and will operate alongside agricultural activities.

— engie.com.au/home/assets/wind/the-plains

Table of Contents

Introduction

The Plains Renewable Energy Park (REP) is a proposed renewable energy development located in the south western part of New South Wales. The Wind Farm will have a maximum installed capacity of up to 1.5GW as well as up to 400MWac of solar and up to 4hr at 400MW of battery storage.

The proposed project is located roughly 10km south of Hay, in the NSW South-West Renewable Energy Zone (REZ) which lies alongside the future Project EnergyConnect (Robertstown-to-Wagga Wagga) 330kV transmission line.

Following the Desktop Survey, Ares have been tasked to undertake physical Route Surveys from the chosen port of Adelaide to site. The purpose of the study is to determine the pinch points along the route, perform swept path analysis and give best estimates of modifications and works required to enable cargo to be brought to site.

The study is designed for those involved in the project that have a limited knowledge of transportation, including a comprehensive outline of the routes and actions required to achieve delivery.

01

Overview

Biala WF

Two prime movers transporting a Base Tower Section for the Biala Wind Farm.

Project Overview

The Plains Renewable Energy Park is a proposed renewable energy development located in the south western region of New South Wales. The Project will consist of up to 1.5GW of wind turbines in the South West Renewable Energy Zone.

Scope of Survey

The Plains REP is located in the western Riverina region of New South Wales, approximately 10 kilometres south of the town of Hay.

Following the initial Desktop Survey, the preferred port of import was identified as the **Port of Adelaide**. ARES was commissioned to physically drive the routes to identify, check and measure any pinch points en route, including any new issues or route options that were not apparent in the desktop analysis.

The physical route survey for Adelaide was conducted between April 18-21. The entire blade route was driven and examined except for the section of Cobb Hwy between Mossgiel and Booligal, which was closed by TfNSW due to recent flooding and associated repair works. (This is noted in the report.) The tower route was then driven from Adelaide to Whyte Yarcowie, whereupon it joins up with the blade route.

Following the physical examination of the routes, ARES performed swept path analyses of the critical pinch points along the routes using a combination of drone imagery shot during the survey and aerial imagery from Nearmap. The aim of the swept paths is to highlight the extent of any modifications required at each pinch point as well as any encroachment into private land by either the equipment or the cargo (e.g. blade tip).

ARES also performed swept path analysis of four proposed site entrances as part of our scope of works.

Ports of Import

The Port of Adelaide has seen several large wind farm projects pass through it in recent years, including Port Augusta and Silverton, and is currently being used for the Goyder project. It has a proven capability to handle large break bulk vessels such as those used for wind projects.

Storage is available in various areas around the port, as depicted on the right. Blades will need to be stored at Berths 18/20 due to their length. The storage areas are fenced and security is provided by the port.

One of the biggest advantages of Adelaide Port is its connections to the road network. Port River Expressway is only a kilometre away, with links to the North-South Motorway (able to take most oversize loads north out of Adelaide Metro) and Port Wakefield Rd (designated overheight route). The routes out are relatively clear of obstructions and cater well for truck traffic.

The only downside to the use of Adelaide for wind farm cargo is that the region north of Adelaide has a number of proposed wind projects likely to also utilise Adelaide as their port of import - e.g. Goyder Stage 2, Carmody's Hill, Twin Creek, Crystal Brook. Depending on the timing of The Plains REP, the port may become congested when playing host to more than a single wind farm at a time.

Above: Storage areas at Adelaide Port (in red). **Below:** Components stored at Adelaide Port by ARES for the Silverton WF project.

Transport Methodology

The Plains will feature next generation wind turbines with some of the largest blades and tower sections in the market.

Transport Envelope

The cargo dimensions assumed for this project are listed on the opposing page. These represent the Goldwind GWH175 8MW wind turbine platform with its 86m blade, along with the anticipated diameter (6.31m) of a steel tower for this larger machine. By comparison, the current generation of wind turbines has blades at around 80m long and towers at less than 6m in diameter.

A key assumption here is that the blade will have its tip support frame positioned at 50m from the blade root, based on the information provided by the client and OEM. This will result in quite a large rear overhang of 36m. Should this tip frame position change, the swept paths of the blades will need to be re-assessed.

Tower sizes and dimensions are usually not finalised until a much later stage of the project. We have provided estimates for the largest base tower section as well as the longest top tower section that can be reasonably expected for a wind turbine of this size. The mid tower section dimensions will fall somewhere in between these extremes.

Besides the wind turbine components, there will be a few other oversize overmass deliveries to the wind farm, particularly the main transformers for the substations. These tend to be overmass loads ranging from 150 to 300 ton depending on size. No sizing information is available at present for the transformers and hence we have not considered these any further at this stage.

Equipment

The change in cargo size is relatively small compared with current wind turbines and hence equipment required to transport them should be readily available.

Blades can be transported on extendable trailers which are currently being used, although if the tip frame spacing changes to something larger than about 55m then these trailers would need to be modified.

Other options for blade transport include a jinker style trailer or a fixed length blade trailer with removeable extension beams, both of which are in relatively common use for overlength applications. A blade lifter/ manipulator trailer has not been considered in this report as the approval pathway to use such a trailer on the road is unknown and considered too risky.

The base towers at a diameter of up to 6.31m will pose issues especially with respect to height. These will have to be transported on either “bookend” style trailers or low platform trailers to keep overall height as low as possible - this will minimize the amount of power lines which will need to be lifted.

The top tower sections are expected to be very similar to those currently in the market and should pose no issues for transport.

Cargo Dimensions

Component	Qty	Length (m)	Width (m)	Height (m)	Weight (t)
Nacelle	188	9.9	5.0	4.2	41.6
Drivetrain	188	8.2	4.1	4.2	106.0
Hub	188	5.1	4.5	4.2	52.0
Blade	564	86.0	4.8	3.7	32.0
Tower Base	188	10.0	6.3	6.3	110.0
Tower Top	188	36.0	4.3	4.3	80.0

Note: mid tower sections will typically fall in between the weights and dimensions of the base and top sections. There will likely be 5-6 of these mid sections per turbine, or an additional 940-1,128 OSOM deliveries for the project.

Overall Dimensions

Component	Equipment	O/A Length (m)	O/A Width (m)	O/A Height (m)	O/A Weight (t)
Nacelle	PM 2R8 4R8	25.9	5.0	4.9	84.0
Drivetrain	PM 10R8	31.3	4.3	5.0	168.0
Hub	PM 2R8 4R8	25.9	4.5	4.9	94.0
Blade	PM 6R8	97.4	4.8	4.7	86.0
Tower Base	PM 5R8-5R8 (Bookends)	39.1	6.3	6.7	192.0
Tower Top	PM 8R8 EXT	45.3	4.3	5.3	143.0

Note: mid tower sections will be transported on either low loaders or platform trailers.

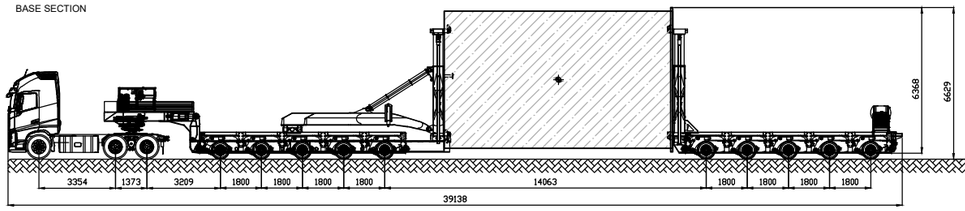
The equipment schematic on the next page shows how these components will be delivered for the project.

Axle Loads

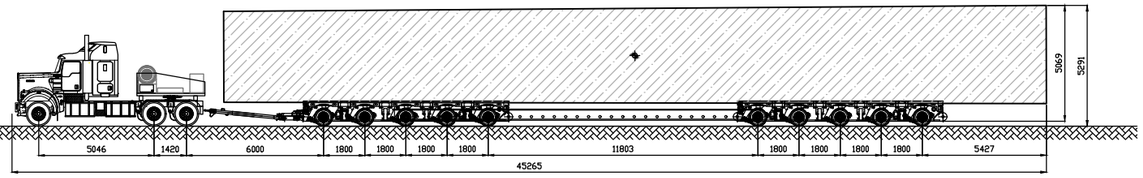
Axle loads will be up to 14 tons per row at 4.3m width. Axle spacings are shown in the equipment schematic overleaf.

Equipment Schematic

BASE SECTION

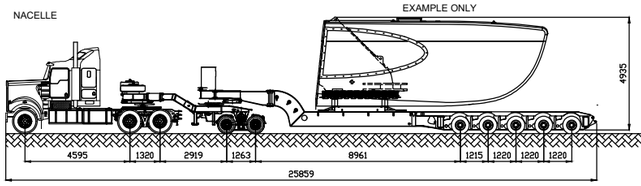


TOP SECTION



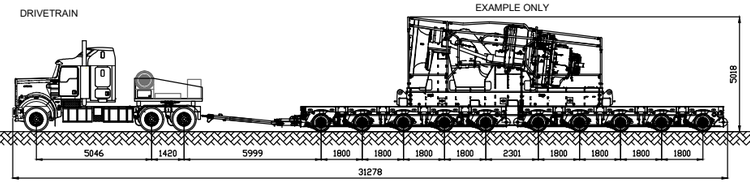
NACELLE

EXAMPLE ONLY



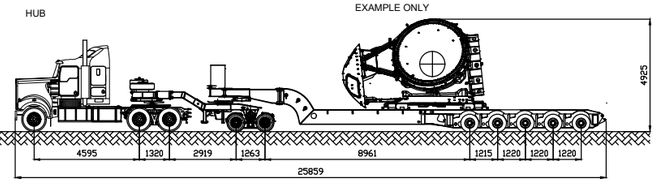
DRIVETRAIN

EXAMPLE ONLY

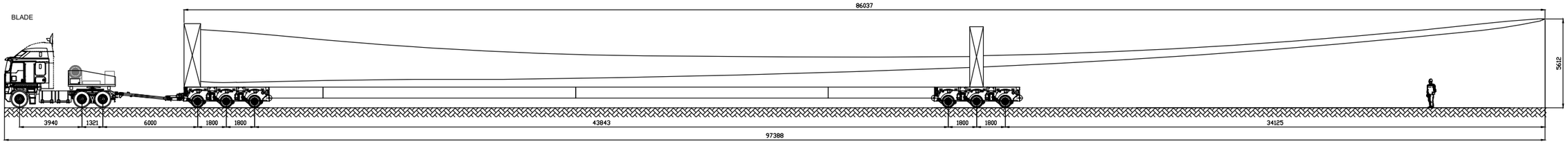


HUB

EXAMPLE ONLY

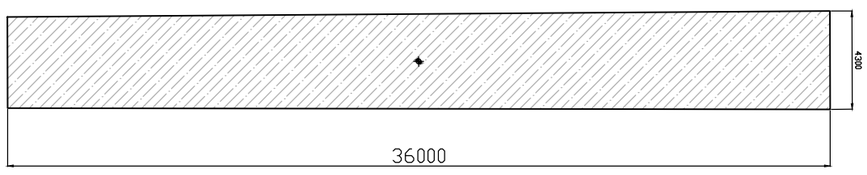


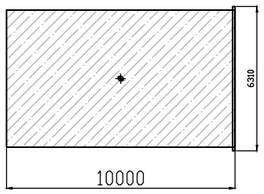
BLADE



Note: Goldwind documentation notes blade tip droops by 739mm so transport height will be 4,873mm.

Tower Specifications





REV	DATE	DESCRIPTION	DRN	CHK	APP	REFERENCE DRAWINGS

DRAWING NOTES:

ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE (UNO) ALL WEIGHTS ARE IN t (METRIC TONNES) UNO ALL DETAILS ARE PROVISIONAL AND SUBJECT TO CONFIRMATION LASHINGS CALCULATIONS AS PER RESTRAINT GUIDELINES

TECHNICAL NOTES:

WEIGHT, DIMENSIONS AND COG POSITION TO BE CONFIRMED BY CLIENT STRUCTURAL INTEGRITY TO BE CHECKED BY CLIENT OPERATIONAL DIAGRAMS AND MANUAL MUST BE OBSERVED HYDRAULIC STABILITY REFERS TO STATIC LOAD ONLY STABILITY PROVISIONAL UNTIL COG CONFIRMED

ARES PROJECT SERVICES PTY LTD - ABN: 45 643 587 115

DRAWN BY:	
DRAWN DATE:	
CHECKED BY:	

CUSTOMER:	Engie	SIZE:	
PROJECT:	The Plains R.E.P.	SCALE	NTS
DRAWING TITLE:	Equipment Schematic	SHEET NO:	
DRAWING NAME:	ENGIE_THEPLAINS_R1.DWG	REV	

Project Timing

The Plains REP is scheduled to commence construction in 2025, with wind turbine component deliveries commencing around **Q4 2027**. Please note, these dates are subject to change and should be treated as indicative at this stage.

The proposed construction run rate is 2 complete turbines per week. We anticipate total duration of OSOM transport to be approximately **2 years**.

With 12-13 major OSOM components per turbine, this would mean a total of up to **26 oversized deliveries per week** or **4-5 deliveries per day** to site, spread over six days (Mon-Sat).

The proposed weekly delivery schedule is shown in the table below (subject to change due to resourcing, operational and permit requirements).

Component	Mon	Tue	Wed	Thu	Fri	Sat
Nacelle	●			●		
Drivetrain		●			●	
Hub			●			●
Blades	●	●	●	●	●	●
Tower Section 1	●			●		
Tower Section 2	●			●		
Tower Section 3		●			●	
Tower Section 4		●			●	
Tower Section 5		●			●	
Tower Section 6			●			●
Tower Section 7			●			●

Daily Schedule

A sample journey is provided below to illustrate how a component would be transported to site.

Day 1

START: PORT ADELAIDE

04.00hrs	Depart Port Adelaide
05.00hrs	Gawler
06.30hrs	Burra
07.30hrs	Terowie
09.00hrs	Yunta (rest break)
11.30hrs	NSW Border
12.30hrs	Layover Broken Hill

FINISH: BROKEN HILL

Total Distance:	520 km
Work Time:	8.5 hrs

Day 2

START: BROKEN HILL

05.00hrs	Depart Broken Hill
06.00hrs	Clear Broken Hill
08.30hrs	Wilcannia (rest break)
11.30hrs	Ivanhoe
13.30hrs	Booligal
14.30hrs	Layover Hay

FINISH: HAY

Total Distance:	590 km
Work Time:	9.5 hrs

Day 3

START: HAY

05.30hrs	Depart Hay
06.00hrs	Clear Hay
07.00hrs	Arrive Site Entrance
11.00hrs	Component offloaded
11.30hrs	Return Journey commences

FINISH: THE PLAINS REP

Total Distance:	25 km
Work Time:	6+ hrs

NOTES:

- Departure times subject to transport authority and Police approval.
- Return journey via Mildura (subject to permits and approvals)
- Times are indicative only and will change depending on traffic conditions and operational considerations.

Route Overview

ARES' Desktop Survey assessed routes from a number of different Ports of Import, as depicted in the below Routes Overview. One route was selected for a physical survey and detailed assessment - Adelaide.

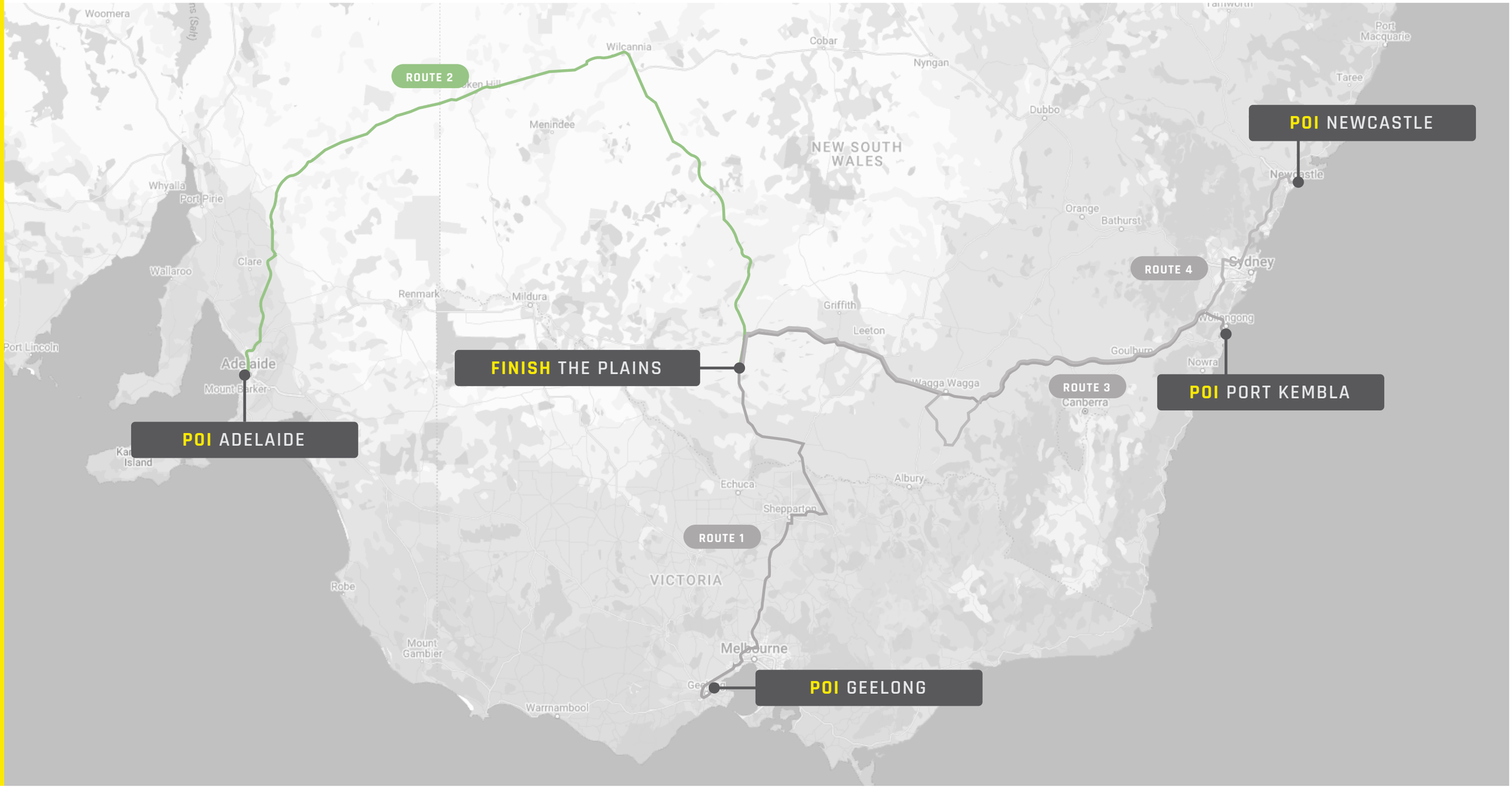
The results of the assessments for the selected route is presented in more detail in the following section.

ROUTE 1 **Geelong to The Plains -** Distance: 560km - not assessed further

ROUTE 2 **Adelaide to The Plains -** Distance: 1,130km

ROUTE 3 **Port Kembla to The Plains** - Distance: 715km - not assessed further

ROUTE 4 **Newcastle to The Plains** - Distance: 1,024km (blades only)



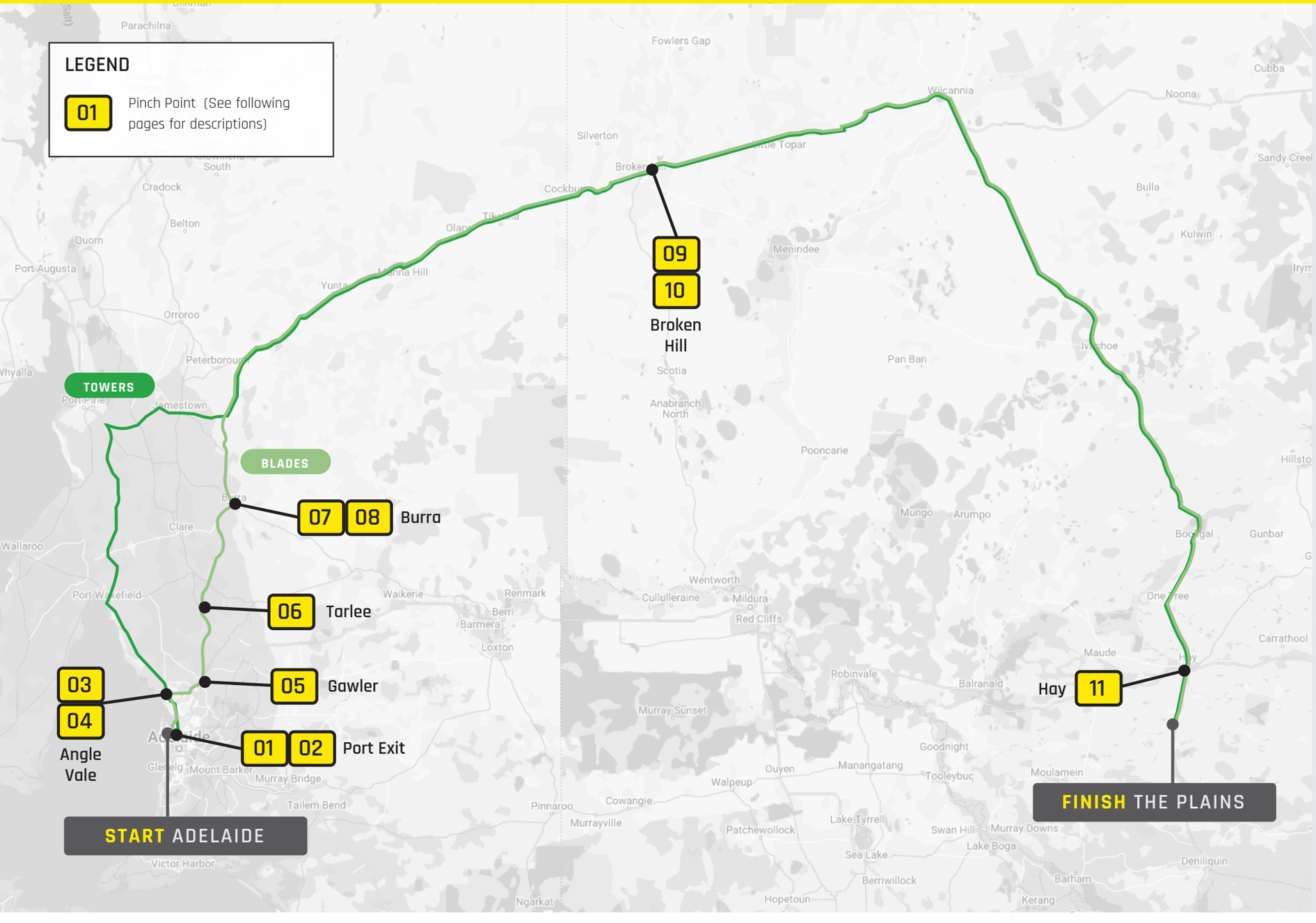
02

Adelaide to The Plains REP

Murra Warra WF

A blade trailer loaded with a 70m Senvion blade skilfully negotiates the township of Nhill for the Murra Warra Stage 1 Wind Farm.

Adelaide to The Plains - Overview



BLADE ROUTE

	START - Port Adelaide
0.0 KM	Ocean Steamers Rd
0.1 KM	Eastern Pde
1.0 KM	Port River Expy
4.4 KM	North-South Mwy
19.3 KM	Port Wakefield Hwy
26.8 KM	Angle Vale Rd
39.7 KM	North-South Mwy
49.9 KM	Horrocks Hwy
89.9 KM	Barrier Hwy
156.3 KM	(Burra bypass)
160.3 KM	Barrier Hwy
510.9 KM	(Broken Hill bypass)
515.1 KM	Barrier Hwy
729.1 KM	Cobb Hwy
1,133.8 KM	**FINISH - The Plains REP**

TOWER ROUTE

	START - Port Adelaide
0.0 KM	Ocean Steamers Rd
0.1 KM	Eastern Pde
1.0 KM	Port River Expy
9.4 KM	Port Wakefield/Augusta Hwy
201.7 KM	Wilkins Hwy
249.0 KM	(Jamestown Bypass)
254.0 KM	Wilkins Hwy
254.8 KM	Jamestown-Yarcowie/Whyte Rd
279.8 KM	Barrier Hwy
576.8 KM	(Broken Hill bypass)
582.6 KM	Barrier Hwy
796.6 KM	Cobb Hwy
1,201.3 KM	**FINISH - The Plains REP**

Adelaide to The Plains REP

General Route Notes

Road Quality

Almost the entire transport route will be along state highways, which are generally designed to a higher specification and able to handle heavier and higher volumes of traffic.

The routes will be entirely on asphalt. There are sections of the Cobb Hwy between Wilcannia and Ivanhoe which are currently being upgraded from gravel to asphalt - this is scheduled to be complete in 2023-24 and well ahead of any deliveries for The Plains.

Width-wise there is only one area of note which will require extra vigilance - sections of the Cobb Hwy either side of Ivanhoe are quite narrow with negligible shoulders. With loads at up to 6.3m wide, oncoming traffic will have to pull off the road surface completely to let loads past. If there have been recent rains, the ground may be soft and cars may become bogged.

Rest Stops

Being on main highways, there are ample truck parking areas and service areas for rest breaks along the routes (refer to following page). However, it is worth noting that the section between Broken Hill and Hay is quite remote with limited amenities and mobile phone coverage. We recommend that a service vehicle with spare parts, tyres etc. accompanies the larger loads to ensure any breakdowns can be addressed in a timely manner.

Overhead Structures

There are only a few overhead structures of note along the overheight route for towers:

- Hanson Rd overpass of Port River Expy (6.0m clearance, bypass via off- and on-ramps
- N-S Motorway overpass of Port River Expy (7.2m clearance - no issues)
- Gantries for highway VMS signboards at various locations in Adelaide metro (bypassable)
- Copper Coast Hwy overpass of Augusta Hwy at Port Wakefield (7.6m clearance - no issues)

For the blades, which are expected to be around 5.0m loaded height, there are two bridges on the North-South Motorway which are at around 5.3m height. These can be bypassed by taking Port Wakefield Rd and then Angle Vale Rd.

Overhead Power Lines

In general, a travel height below around 5.5m is not an issue with respect to power lines. For this project, most towers will be travelling at more than 6m so there will likely need to be quite a few lines requiring permanent lifting, subject to detailed surveys from the power authorities (SA Power Networks, Endeavour Energy, Essential Energy). High load escorts will also likely be required to accompany these loads.

Bridges and Culverts

Axle loads will be limited to 14 tons per axle by South Australian regulations. This should be well within design specifications for bridges, culverts and other structures on major state roads and highways. There are small sections of the route which deviate off state roads, such as the Burra and Jamestown bypasses. These will need liaison with the local council to ascertain any load limits on structures that are crossed.

Above: Typical construction of Cobb Hwy with minimal shoulder.

Rail Crossings

There are numerous rail crossings along the route which are detailed on pages 28-32. These will need written approval from the rail authority or asset owner before they can be crossed. Current rail authority advice from ARTC and Aurizon on crossing and track supervision requirements has been attached as Appendices to this report.

Approvals

Works on major arterial highways in South Australia require engineering design by an engineering consultant (from a pre-approved list) and final sign off by Department of Infrastructure and Transport (DIT).

Modifications to NSW State Roads will require a Works Authorisation Deed (WAD) signed between the project developer and Transport for NSW (TfNSW). Designs will need to be done by a pre-approved engineering consultant and signed off by TfNSW prior to construction.

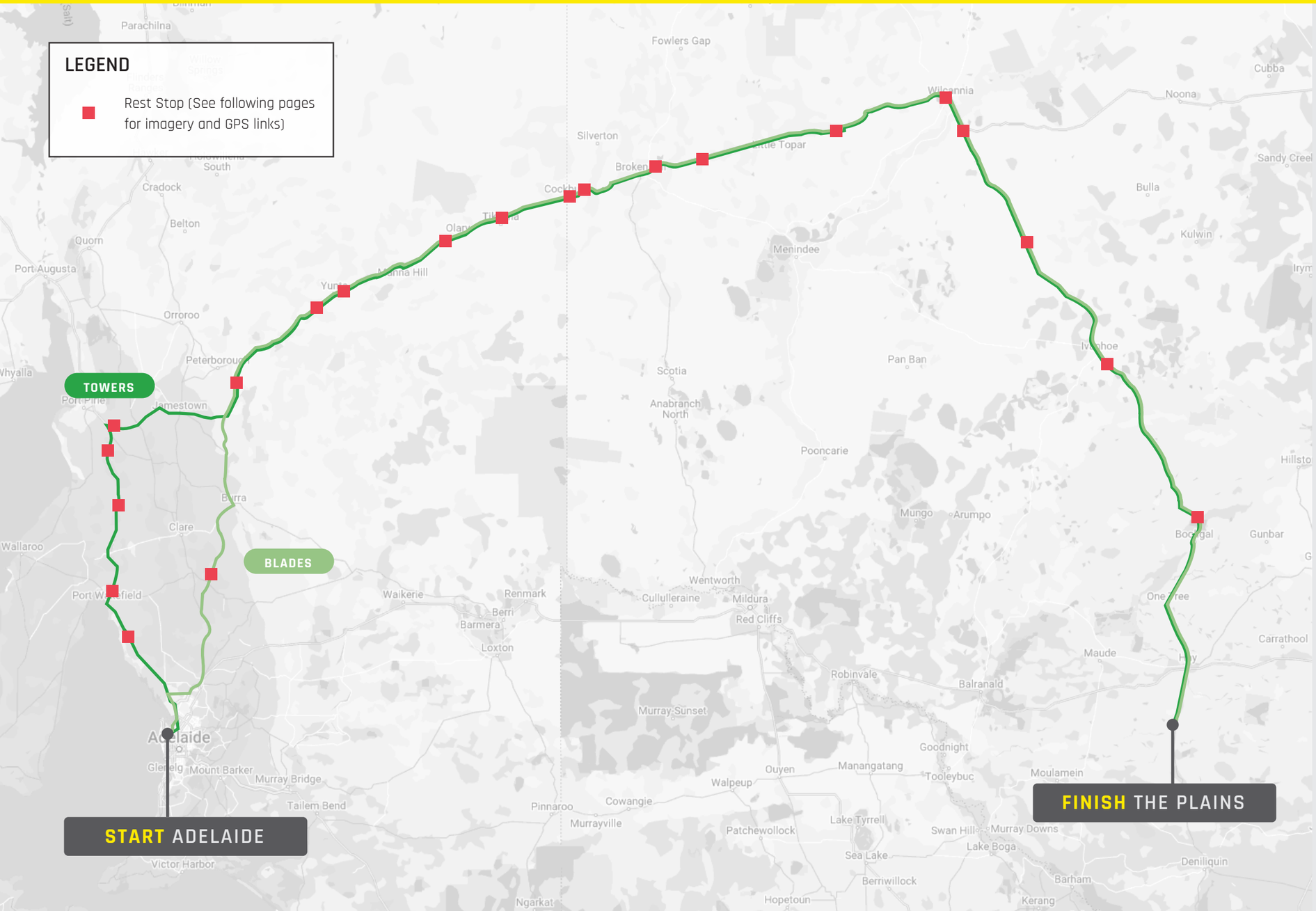
Above:

Hanson Rd overpass of Port River Expressway - 6.0m clearance.

Below:

Penfield Rd overpass (Hamel Bridge) on North-South Motorway - 5.3m clearance.

Adelaide to The Plains - Rest Stops



BLADE ROUTE

No.	KP	Rest Stop Name
01	106	Parking Bay north of Saddleworth
02	222	Woodcutters Rd Parking Area
03	257	Barrier Hwy Parking, Nackara
04	311	Yunta Rest Area
05	371	Truck Parking, Outalpa
06	418	Barrier Hwy Parking, Tikalina
07	460	Cockburn Rest Stop
08	473	Thackaringa Hills Rest Stop
09	514	Round Hills Rest Stop
10	542	Mount Gipps Rest Stop
11	644	Dolo Hills Rest Stop
12	704	Wilcannia
13	724	Cobb Hwy Parking
14	796	Half Way Tree
15	895	Cobb Hwy, Abbotsford Bore
16	1006	Bairds Truck Stop

TOWER ROUTE

No.	KP	Rest Stop Name
17	76	Parking Area south of Inkerman
18	93	Parking Area north of Port Wakefield
19	151	Truck Parking, Hope Gap
20	183	Truck Parking, Merriton
21	201	Wilkins Hwy Parking

01 Saddleworth
GPS: https://maps.app.goo.gl/amy98A8UPwXED7zz5

02 Woodcutters Rd
GPS: https://maps.app.goo.gl/wm1Go6BDxUvZnZfA9

03 Nackara
GPS: https://maps.app.goo.gl/tkR9CTZBoQZWbqgS8

04 Yunta
GPS: https://maps.app.goo.gl/TuKPbNirz11m6h8v9

05 Outalpa
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06 Tikalina
GPS: https://maps.app.goo.gl/6yz8FFHtiShVZojC8

07 Cockburn
GPS: https://maps.app.goo.gl/kbJVbTTMhCQLbqLR7

08 Thackaringa Hills
GPS: https://maps.app.goo.gl/j7wMpqWmQYbZN4ut8

09 Round Hills
GPS: https://maps.app.goo.gl/UUc9gzBhCnwQvJ5d6

10 Mount Gipps
GPS: https://maps.app.goo.gl/SjzMWq4X4fZRhwCj8

11 Dolo Hills
GPS: https://maps.app.goo.gl/s5Bz4N76STjryYcw5

12 Wilcannia
GPS: https://maps.app.goo.gl/PwfcctgC8eXHMY1f9

13 Cobb Hwy
GPS: https://maps.app.goo.gl/Z18L6vR3fdNxDaDh8

14 Half Way Tree
GPS: https://maps.app.goo.gl/ZRTPS3SjxQt2KuzM6

15 Abbotsford Bore
GPS: https://maps.app.goo.gl/NXP9SSX4AbBDc1fp7

16 Bairds Truck Stop
GPS:

17 Inkerman

GPS: https://maps.app.goo.gl/5xmUhQURrNNnFimX8

18 Port Wakefield

GPS: https://maps.app.goo.gl/mjnyJLmNGiF2uQCt9

19 Hope Gap

GPS: https://maps.app.goo.gl/YPe27My9iBPJxzLR7

20 Merriton

GPS: https://maps.app.goo.gl/yd6VKAG9r35uDa5j6

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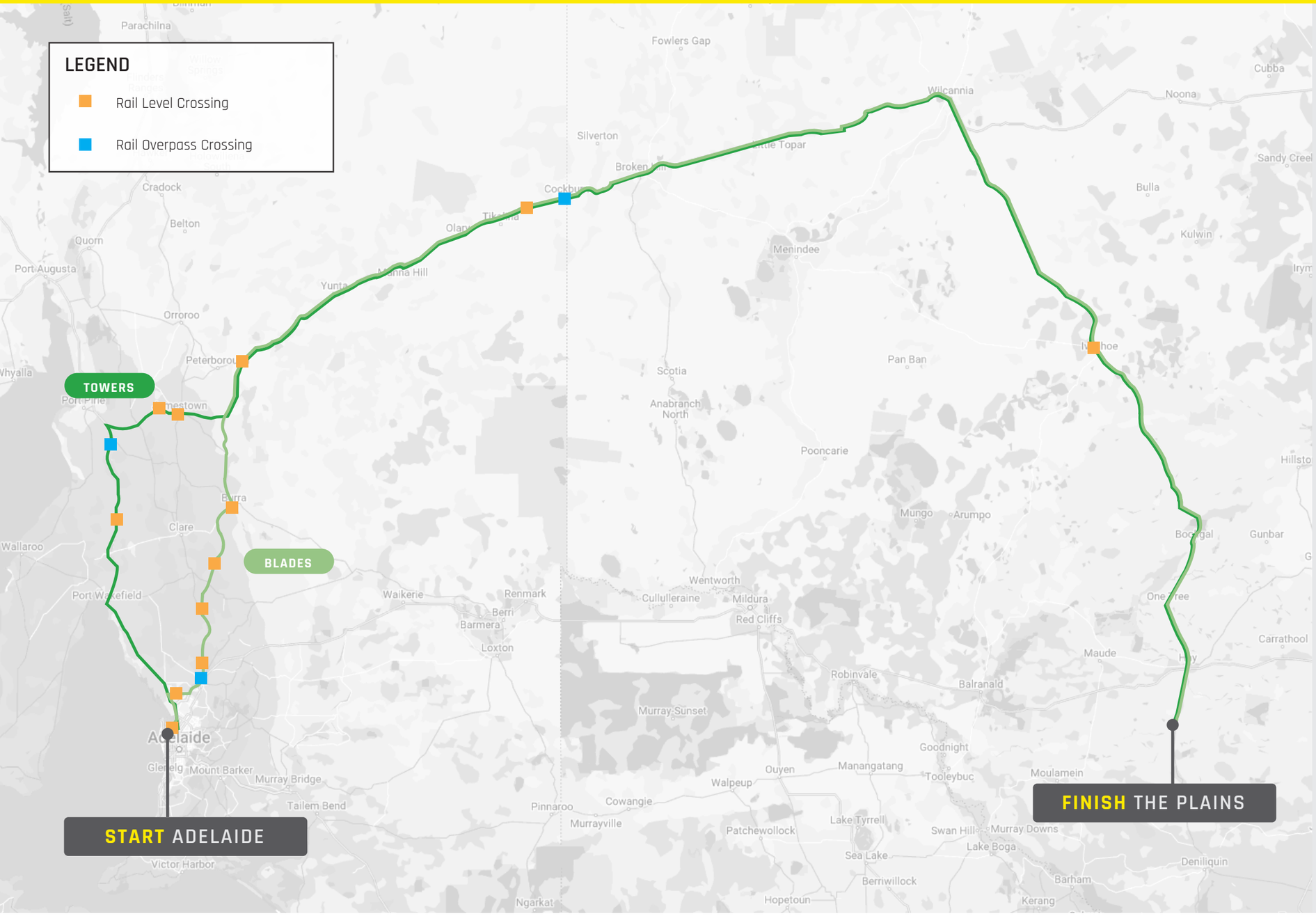
Adelaide to The Plains - Rail Crossings



BLADE ROUTE

No.	KP	Rail Crossing Name
01	0.1	Eastern Pde, Port Adelaide (1)
02	0.2	Eastern Pde, Port Adelaide (2)
03	28	Angle Vale Rd, Angle Vale
04	47	Northern Expy, Gawler
05	56	Horrocks Hwy, Roseworthy
06	84	Horrocks Hwy, Tarlee
07	118	Barrier Hwy, Manoora
08	157	Copperhouse Rd, Burra
09	246	Barrier Hwy, Ucolta
10	429	Barrier Hwy, Mingary
11	463	Cockburn Overpass
12	894	Cobb Hwy, Ivanhoe

TOWER ROUTE

No.	KP	Rail Crossing
13	140	Augusta Hwy, Snowtown
14	194	Crystal Brook Overpass
15	239	Wilkins Hwy, Caltowie
16	250	Appila Rd, Jamestown
17	253	OD5 Rd, Jamestown

01 Eastern Pde, Port Adelaide (1)
GPS: https://maps.app.goo.gl/NLtkDkxAziDvKZxH9
Type: Level Crossing
Asset Owner: ARTC
Line: Port Flat Track

02 Eastern Pde, Port Adelaide (2)
GPS: https://maps.app.goo.gl/QXV4cxQD7ZDxnNZE9
Type: Level Crossing
Asset Owner: ARTC
LIne: Gillman-Eastern Parade 01

03 Angle Vale Rd, Angle Vale
GPS: https://maps.app.goo.gl/XzmNkYtGehup7nb8A
Type: Level Crossing
Asset Owner: ARTC
LIne: Adelaide-Crystal Brook

04 Northern Expy, Gawler (DISUSED)
GPS: https://maps.app.goo.gl/kHouKukUksSxRjjRA
Type: Overpass
Asset Owner: Aurizon
Line: Gawler-Kapunda

05 Horrocks Hwy, Roseworthy (DISUSED)
GPS: https://maps.app.goo.gl/38LDwxZZiQUSM84F6
Type: Level Crossing
Asset Owner: Aurizon
Line: Gawler-Kapunda

06 Horrocks Hwy, Tarlee (DISUSED)
GPS: https://maps.app.goo.gl/AhQq1kVdXcLsgoY49
Type: Level Crossing
Asset Owner: Aurizon
Line: Hamley Bridge-Burra

07 Barrier Hwy, Manoora (DISUSED)
GPS: https://maps.app.goo.gl/y1WhadV8Q1WWJzxb9
Type: Level Crossing
Asset Owner: Aurizon
Line: Hamley Bridge-Burra

08 Copperhouse Rd, Burra (DISUSED)
GPS: https://maps.app.goo.gl/XhTT9H9PTbSxR2jE8
Type: Level Crossing
Asset Owner: Aurizon
Line: Hamley Bridge-Burra

09 Barrier Hwy, Ucolta
GPS: https://maps.app.goo.gl/dCJrps53zSmsd8DH8
Type: Level Crossing
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

10 Barrier Hwy, Mingary
GPS: https://maps.app.goo.gl/SxHYc2JEMAgrH7WA8
Type: Level Crossing
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

11 Cockburn Overpass
GPS: https://maps.app.goo.gl/Hn9NDQ9SJh1bxSDe9
Type: Overpass
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

12 Cobb Hwy, Ivanhoe
GPS: https://maps.app.goo.gl/rTktcuGQ8A6di5m36
Type: Level Crossing
Asset Owner: ARTC
Line: Orange-Broken Hill

13 Augusta Hwy, Snowtown
GPS: https://maps.app.goo.gl/noTPs5VuHYZQUUJJ9
Type: Level Crossing
Asset Owner: Aurizon
Line: Snowtown-Bute

14 Crystal Brook Overpass
GPS: https://maps.app.goo.gl/vMxwDcbXS8kwasXo6
Type: Overpass
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

15 Wilkins Hwy, Caltowie
GPS: https://maps.app.goo.gl/CTW6XcAJ19ZdBc8f7
Type: Level Crossing
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

16 Appila Rd, Jamestown
GPS: https://maps.app.goo.gl/6eZNpsC3n42zsX5V6
Type: Level Crossing
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

17 OD5 Rd, Jamestown
GPS: https://maps.app.goo.gl/WCjZUf9xmYH1WP5TA
Type: Level Crossing
Asset Owner: ARTC
Line: Crystal Brook-Broken Hill

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Pinch Point

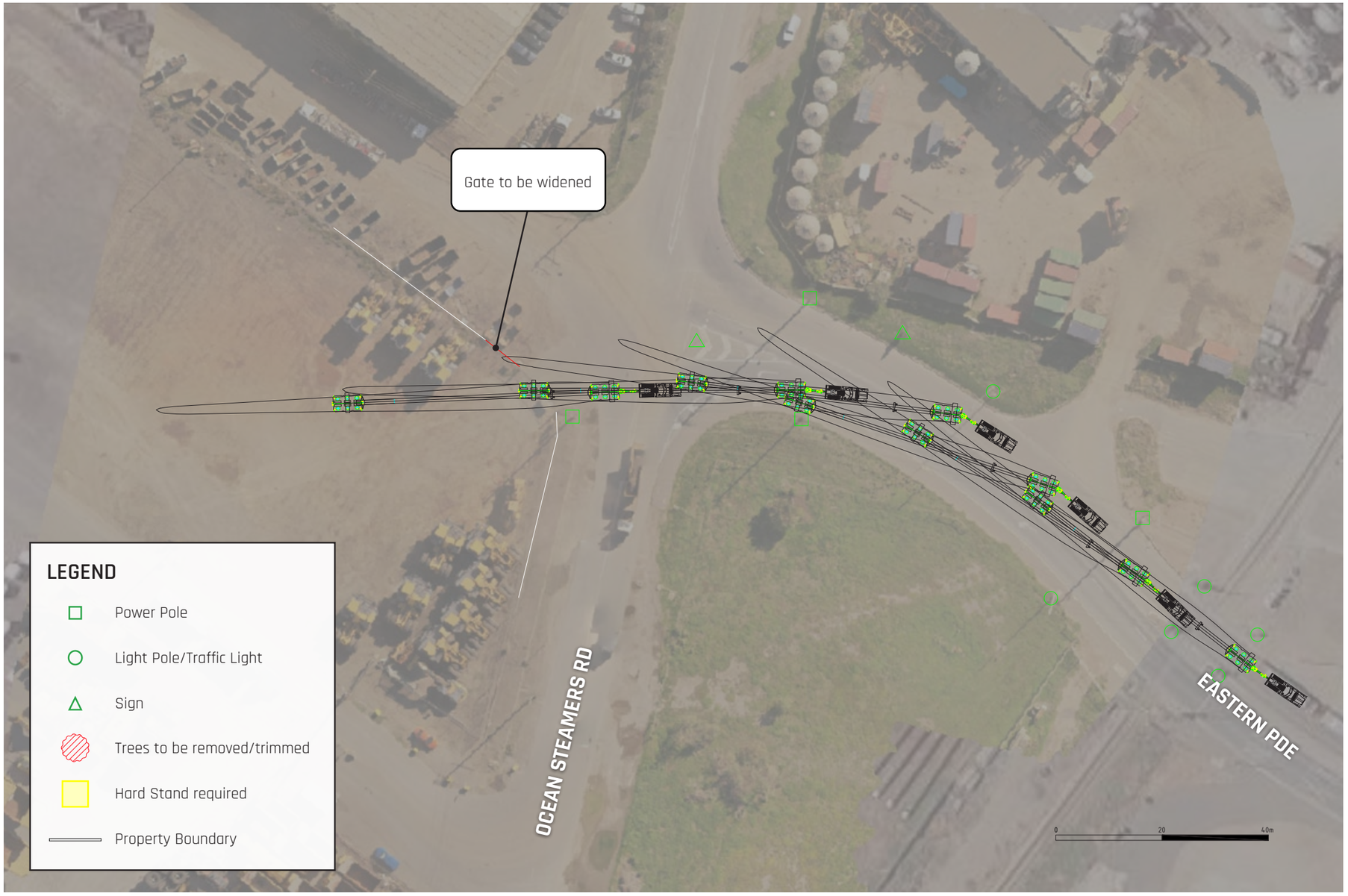
01

RIGHT TURN

Ocean Steamers Rd & Eastern Pde

Blades will have to exit from the existing gate on the north-east side of the Berth 18/20 storage area. This gate will need to be widened or fence made removeable (see red segment on diagram) to accommodate the longer blades. Flinders Port approval will be required for these works. Cargo will have to be stored away from the gate to allow room for blades to manoeuvre.

The turn will need to be made very carefully due to close clearances to traffic furniture on all sides and to be able to straighten up sufficiently for the railway crossing, but no other modifications are required.



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Pinch Point

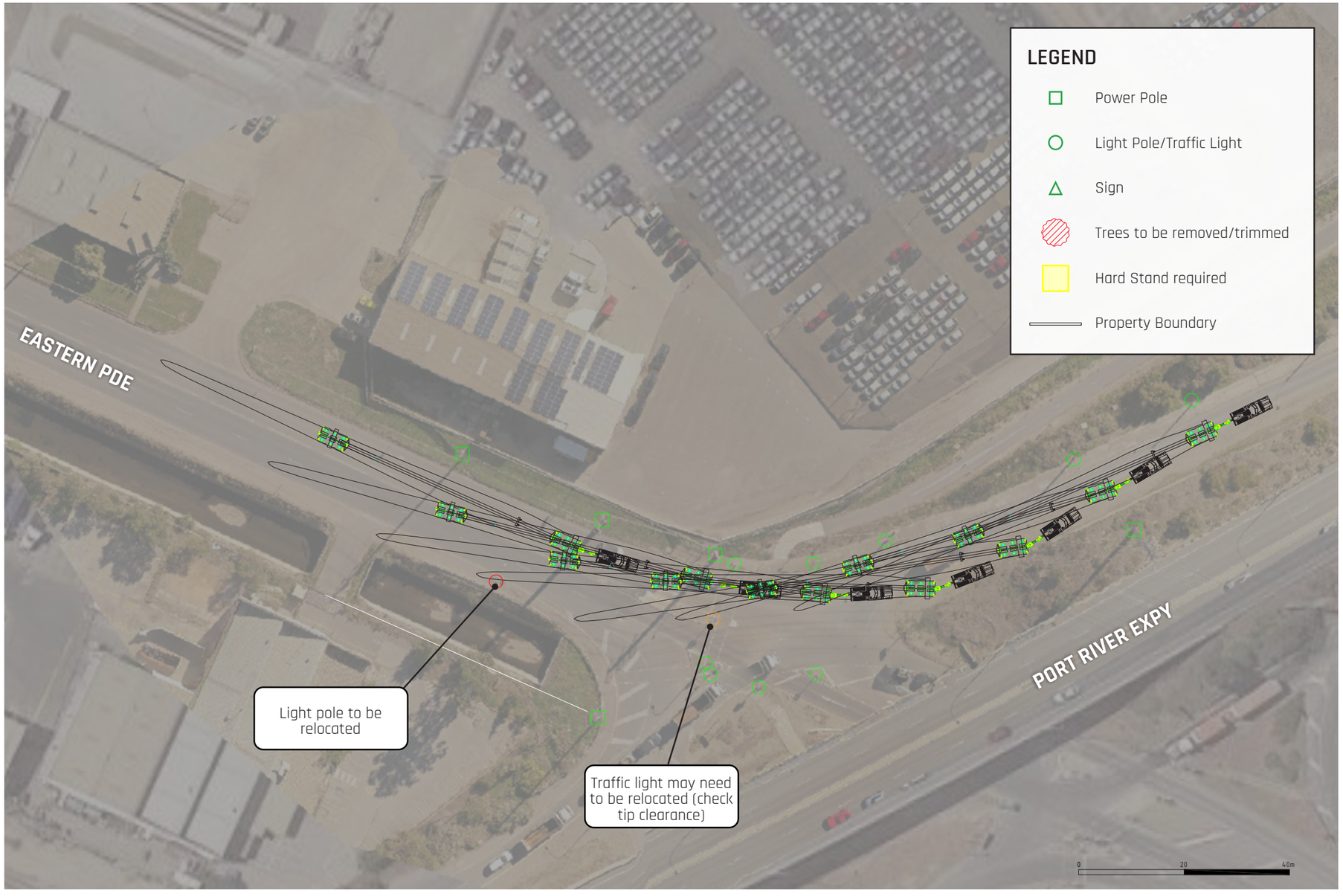
02

LEFT TURN

Eastern Pde & Port River Expy

The turn onto Port River Expressway is very tight with some tall powerlines and poles in the vicinity which are to be avoided. The rear of the blade trailer will run out very wide onto the opposite footpath, requiring the relocation of one light pole as well as the possible relocation of one of the traffic lights in the intersection.

The blade tip can be kept clear of the trees to the south and will not stray into private property.



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Pinch Point

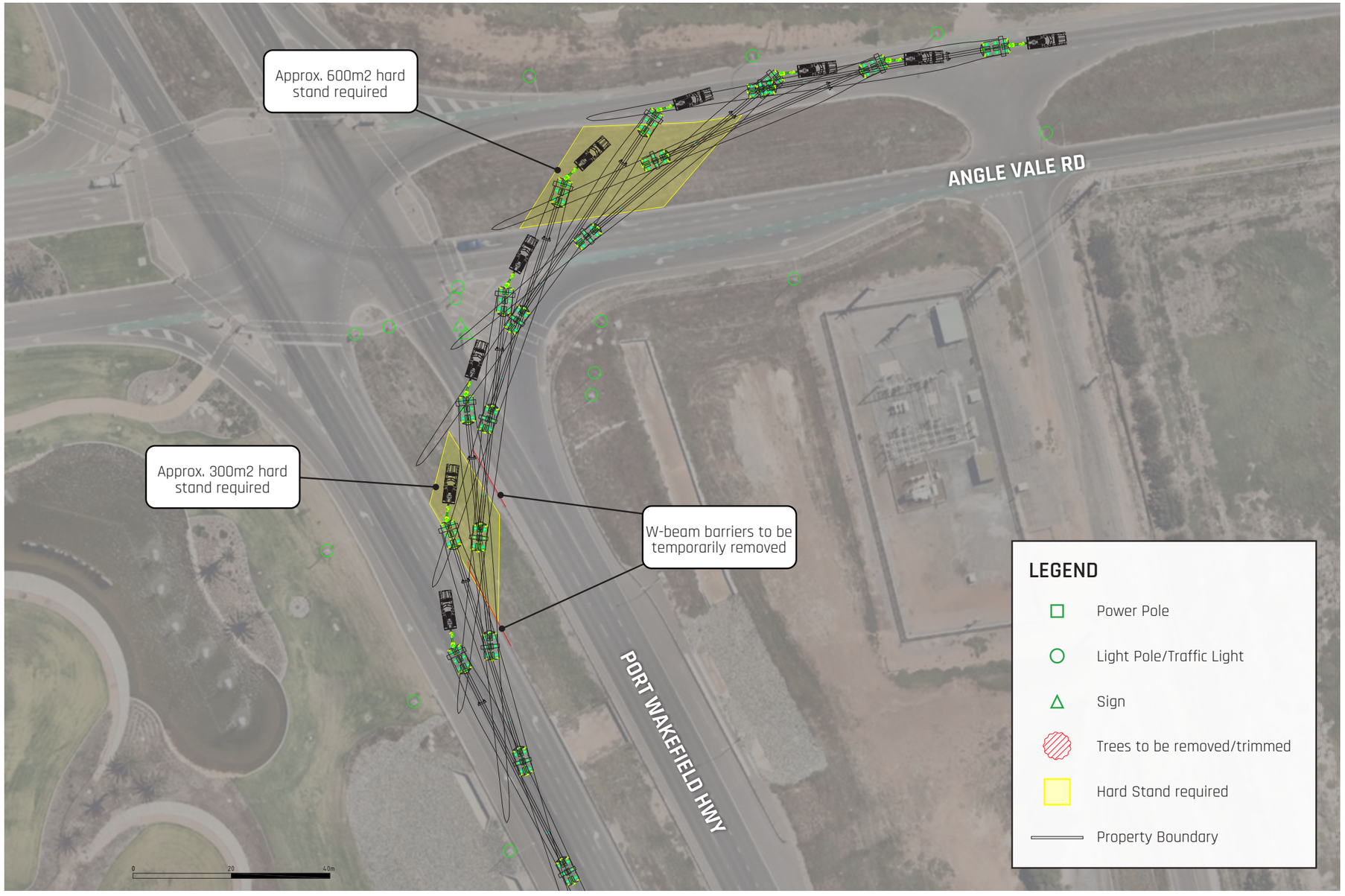
03

RIGHT TURN

Port Wakefield Hwy & Angle Vale Rd

This intersection has recently been upgraded to make Angle Vale Rd dual carriageway, giving a bit more room for blades making the turn. W-beam barriers will need to be removed along Port Wakefield Hwy to allow blades to cut across the median strip, taking care to avoid the drain in the middle. The blade will then cut across the median strip on Angle Vale Rd to cross over to the correct side of the road.

Minor civil works will be required to make the median strips trafficable for truck and trailer wheels as shown in yellow on the right.



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Pinch Point

04

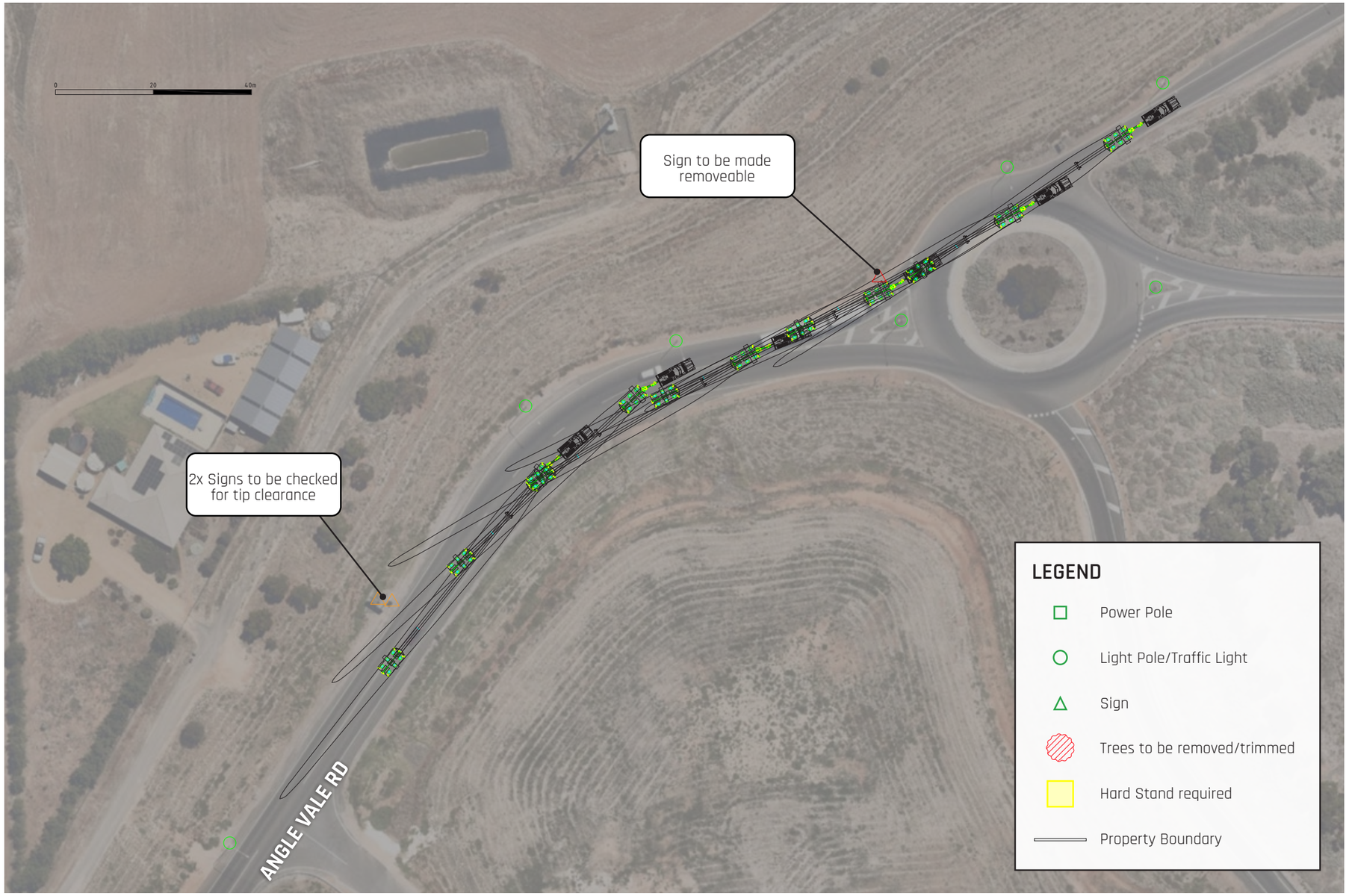
LEFT TURN

Angle Vale Rd & North-South Mwy

This combination of corners to get back onto the North-South Motorway is quite tight and will require traffic to be stopped in both directions, but can be done with only minimal modifications.

Care will be required on the approach as there are power poles and trees to the south of Angle Vale Rd which need to be avoided. The rear trailer will have to be manually steered to keep it on the road surface as it navigates around the roundabout and to avoid the light poles.

A sign will need to be made removeable and another two (in orange) checked during a trial run for blade tip clearance.



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Pinch Point

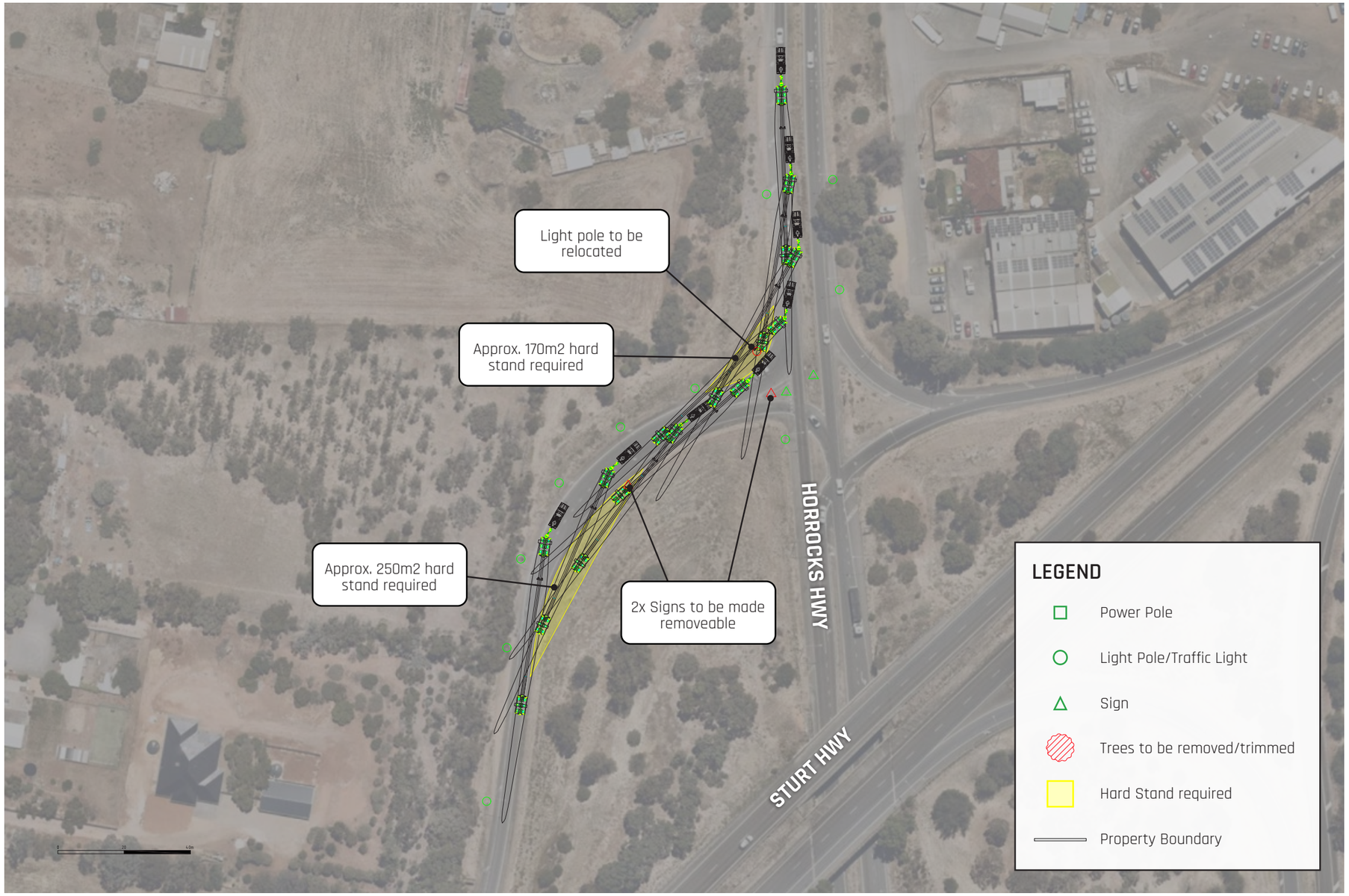
05

LEFT TURN
Sturt Hwy &
Horrocks Hwy

The offramp into this intersection has a moderate downhill gradient with embankments on either side. The blade trailer's rear wheels will have to travel on the eastern embankment, meaning hard stand material will need to be put down with possible earthworks required to level the ground. Further hardstand is required on the inside of the corner merging onto Horrocks Hwy.

Rear tip clearance with the ground will need to be checked during a trial run, if this is an issue the tip frame can be put onto spacers for additional clearance.

One light pole and a few signs will need to be relocated or removed.



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Pinch Point

06

LEFT TURN
Horrocks Hwy,
Tarlee

There is a left hand turn at the town of Tarlee on the Horrocks Hwy to cross a disused railway line. This can be taken by blades conventionally with no issues, however the police escorts will have to hold oncoming traffic whilst the blade completes the turn as the combination will take up both lanes.

Tree trimming is likely required on overhanging branches leading up to this turn (not shown).

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Pinch Point

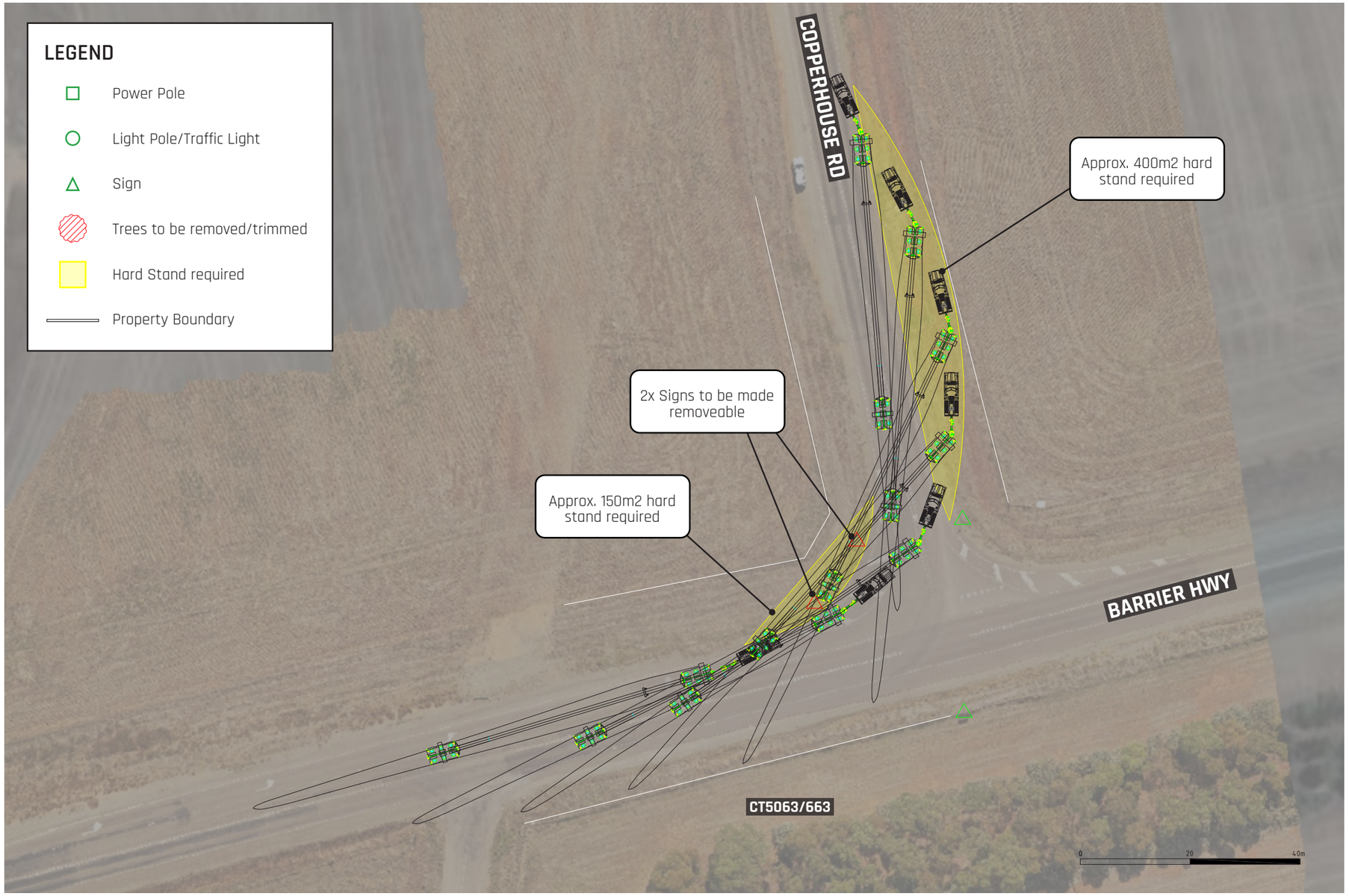
07

LEFT TURN

Barrier Hwy & Copperhouse Rd

The heavy vehicle bypass of Burra town is via Copperhouse Rd. It is primarily designed for B-double traffic and more work will be required to get the blades around.

Loads will have to hug the inside fenceline on turning in, then swing out as wide as possible to the other side of the road. Hard stand material will need to be placed where the wheels run off the existing road surface. Two signs will need to be made removeable.



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Pinch Point

08

LEFT TURN
Copperhouse St
& West St

The left turn at the Bon Accord Hotel on the Burra bypass route will present some problems due to the large rear overhang. Taking this turn conventionally will require tree trimming and/or removal to the south, with the tip swing intruding into private property (CT6105/151).

Some hard stand material is required where the truck and trailer wheels leave the existing road surface. The transport combination may also need permission to travel on private property (Bon Accord Hotel).

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Pinch Point

09

MAJOR TOWN

Route Options through Broken Hill

Getting through the town of Broken Hill is a major challenge for this project. Cargo will arrive from the south-west via the Barrier Hwy and needs to exit via the Silver City and Barrier Hwys to the north-east. ARES assessed three main options to get blades through Broken Hill:

- **New Bypass Option:** Build new track turning off the Barrier Hwy west of Broken Hill which roughly follows existing dirt tracks and links up with Gaffney St
- Two options through the town itself were assessed but found to be non-feasible due to swept path issues.

As going through the town itself is not feasible with the sheer length of the blades, the only realistic option is to build a new bypass track.

Pinch Point

09A

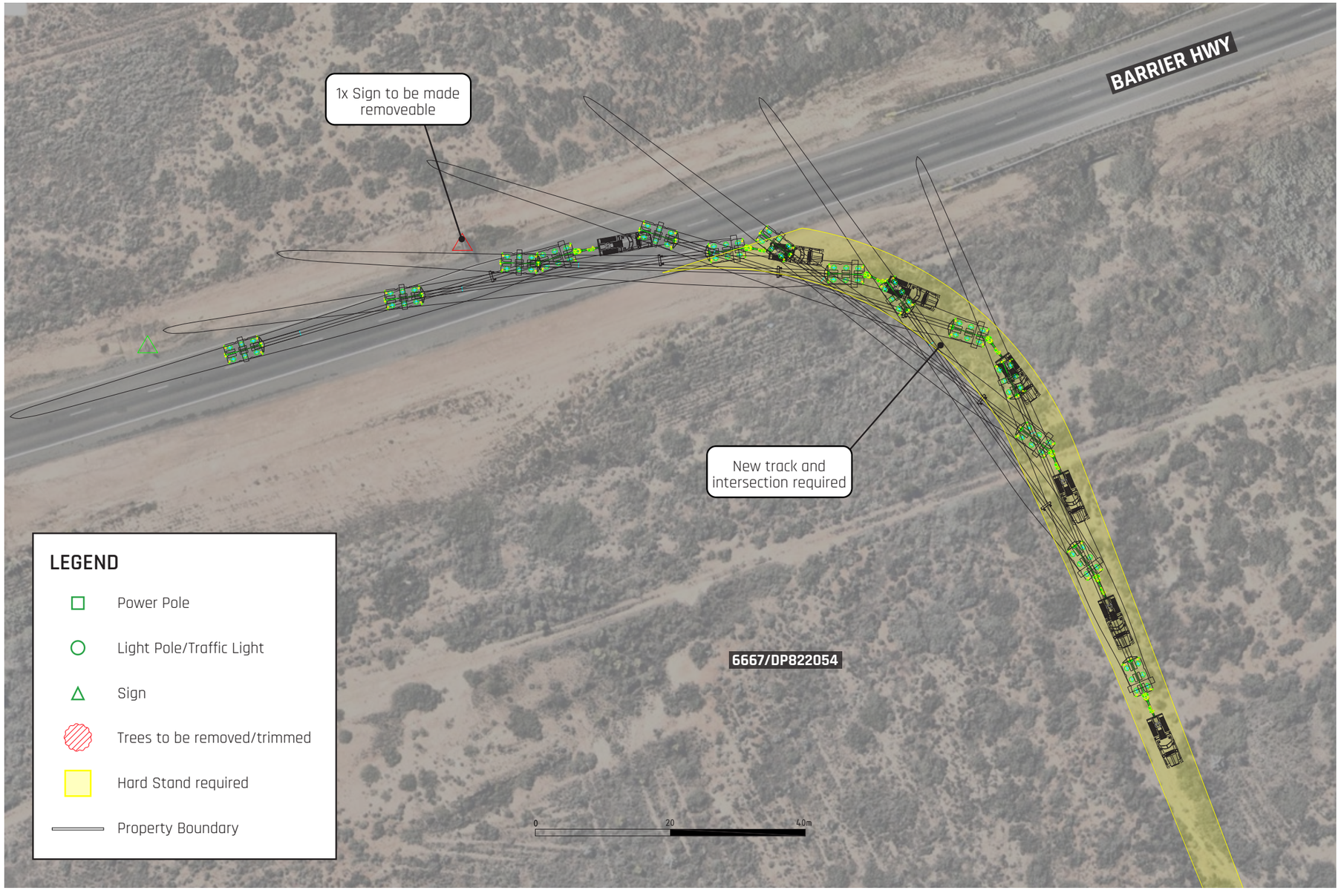
RIGHT TURN

Barrier Hwy approx.
2.4km from Broken Hill

The proposed bypass makes use of existing tracks which come off the Barrier Hwy at around 2.4km west of Broken Hill town. There is no existing intersection and a new one will have to be designed and constructed.

The swept path analysis on the right shows the extent of civil works required for the 86m blade to make this turn. One sign will need to be made removeable.

As the Barrier Hwy is a state-controlled road, the design and construction of this intersection will require a Works Authorisation Deed (WAD) and approvals from Transport for NSW.



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Pinch Point

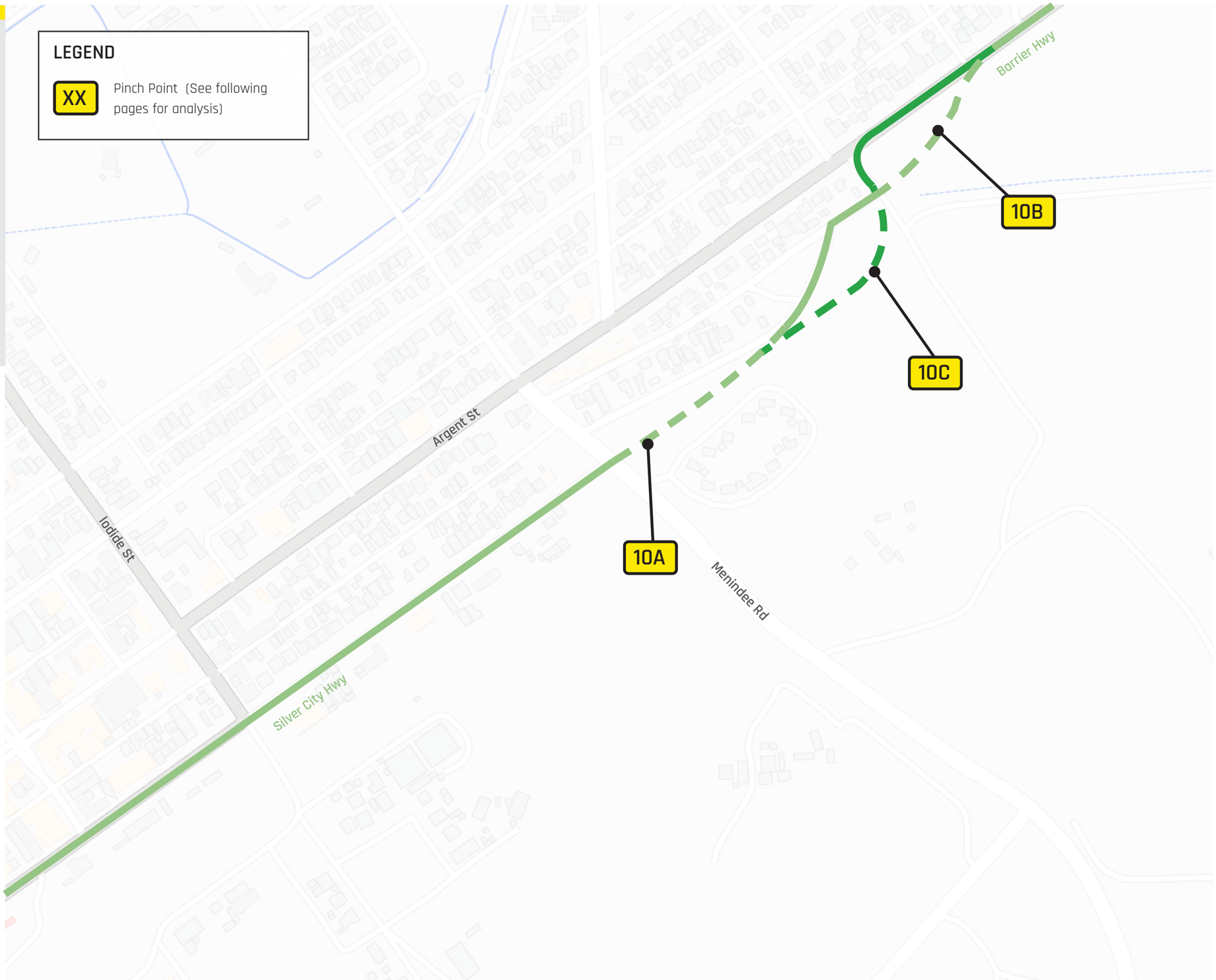
10

RIGHT TURN

Silver City Hwy &
Barrier Hwy

Regardless of which option is chosen from Pinch Point 09, to get back onto the Barrier Hwy to the north-east will require a new track to be built to Sturt St (Pinch Point **10A**), and then a couple of options to get back onto the Barrier Hwy (Pinch Points **10B** and **10C**).

The pinch points are explored in detail in the following pages.



Pinch Point

10A

RIGHT TURN
Crystal St
& Sturt St

The blades will require a temporary track to link the end of Crystal St with Sturt St across Menindee Rd. This will pass through Crown land and will require a moderate amount of civil works to make the surface suitable for a road base.

There is a power pole which can be avoided, and the road sign can be relocated away from the path of the transporter.

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Pinch Point

10B

RIGHT TURN
Chettle St
& Barrier Hwy

A temporary track will need to be built to link the end of Chettle St to the Barrier Hwy/Argent St. This will pass through Crown land near the Perilya Mine, which is non-operational.

The terrain is relatively flat and suitable for a temporary road. There is an existing double gate at the end of Chettle St which may be utilised to access the property. A new gate will have to be put in at the exit point into Barrier Hwy/Argent St.

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Pinch Point

10C

RIGHT TURN

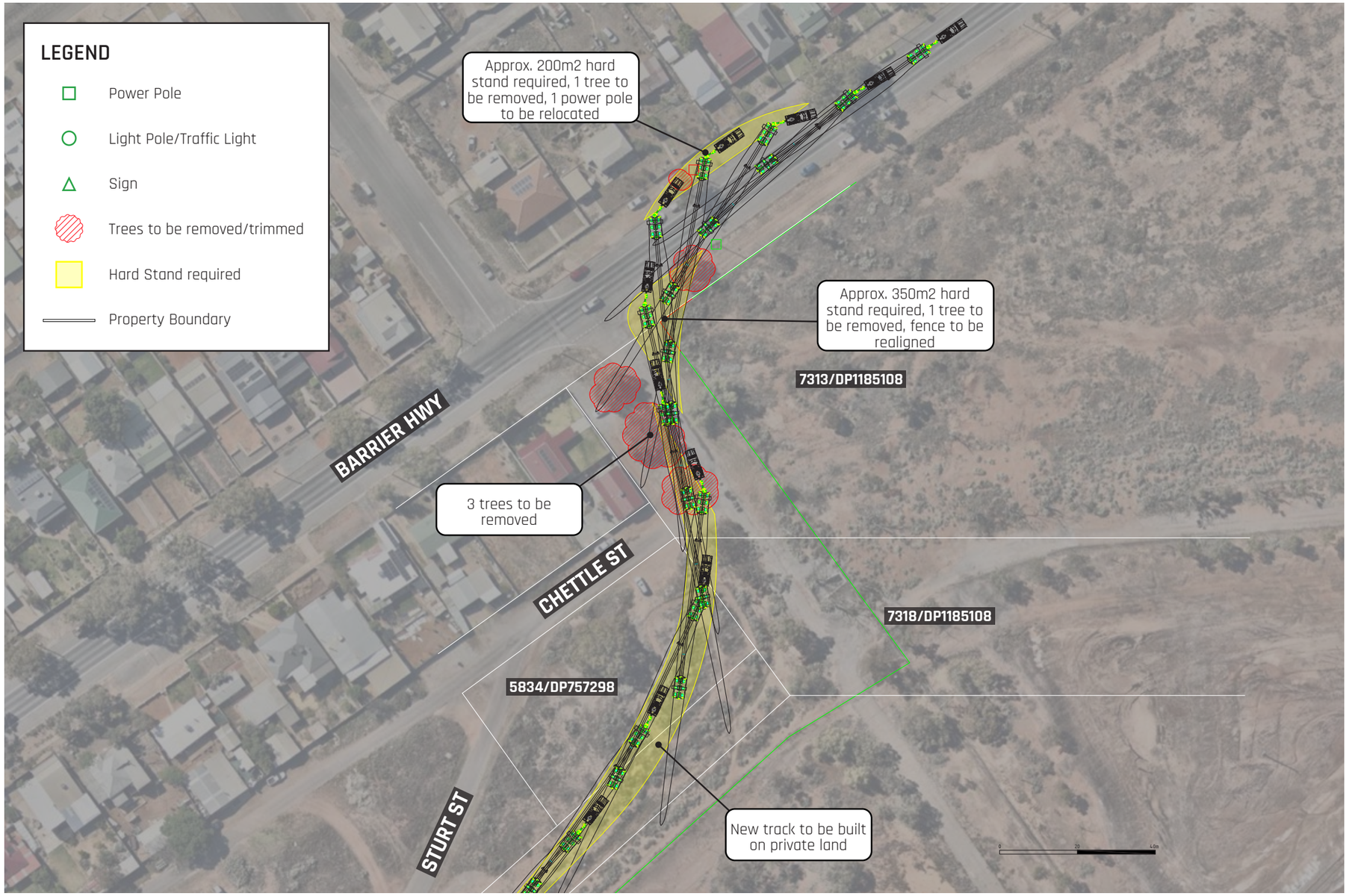
Sturt/Chettle St
& Barrier Hwy

As an alternative to Pinch Point 10B, blades can take a sharper turn to avoid entering into the Perilya Mine-affiliated property (Lot 7313 of DP1185108) as much as possible. Significantly more civil works are required to extend a track from Sturt St, and also at Barrier Hwy.

4-5 trees will also need to be removed, and a power pole will need to be moved.

The track from Sturt St will pass through a separate private property (Lot 5834 of DP757298). Permission will be required from this landowner to build on and transport through their land.

The Perilya Mine property cannot be avoided entirely but the impact will be limited to a small corner of the lot. The fence should be realigned to allow blades to pass through.



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Pinch Point

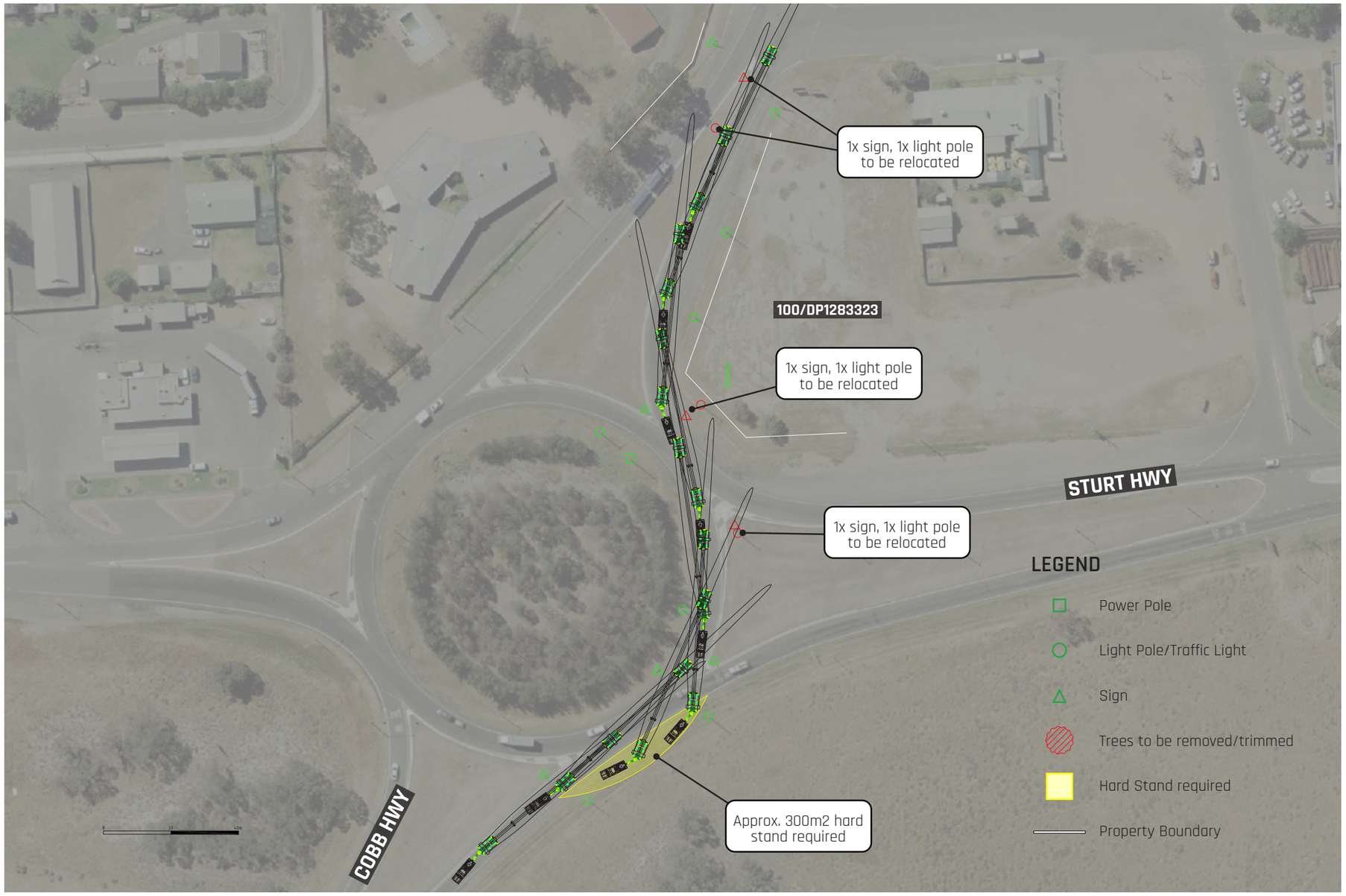
11

ROUNDABOUT
Cobb Hwy
& Sturt Hwy

The roundabout south of Hay will require a moderate amount of work prior to blade transport. Three light poles will need to be removed or relocated, and a number of signs made removeable.

The blade swing slightly overpasses the private property to the east (Lot 100 of DP1283323) which is a proposed service station currently under development. ARES reviewed the development plans and the blade tip should miss the 12m high signboard indicated on the plans.

There is also an option to take the wrong side of the roundabout, but after assessment this results in a similar amount of modifications but with a contraflow movement, which is not desirable. We recommend using the correct side as shown.



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List of Affected Landowners

The lots which either need to be accessed directly by trucks and trailers, or which are in the blade swept path, are listed below.

As part of our scope of work, we have run title searches on all properties or lots that will be affected by the transport route, as noted in the individual Pinch Points on preceding pages. South Australian Certificates of Title were obtained from the SA Integrated Land Information System (SAILIS). New South Wales Certificates of Title were obtained from the NSW Land Registry Services via Infocert.

Land owners are a mixture of the Crown, corporations and individuals.

All Certificates of Title will be provided separately to this report as an Appendix.

South Australia

Title Reference	Address	Pinch Point	Owner(s)
CT5063/663	19 Springbank Rd, Burra	07	Hichick Breeding Company P/L
CT6105/151	44 Copperhouse St, Burra	08	SA Government (DIT)
CT5419/54	LOT98 West St, Burra	08	Colin Alfred Phillips & Pauline Phillips
CT5695/294	LOT98 Cooper St, Burra	08	Regional Council of Goyder

New South Wales

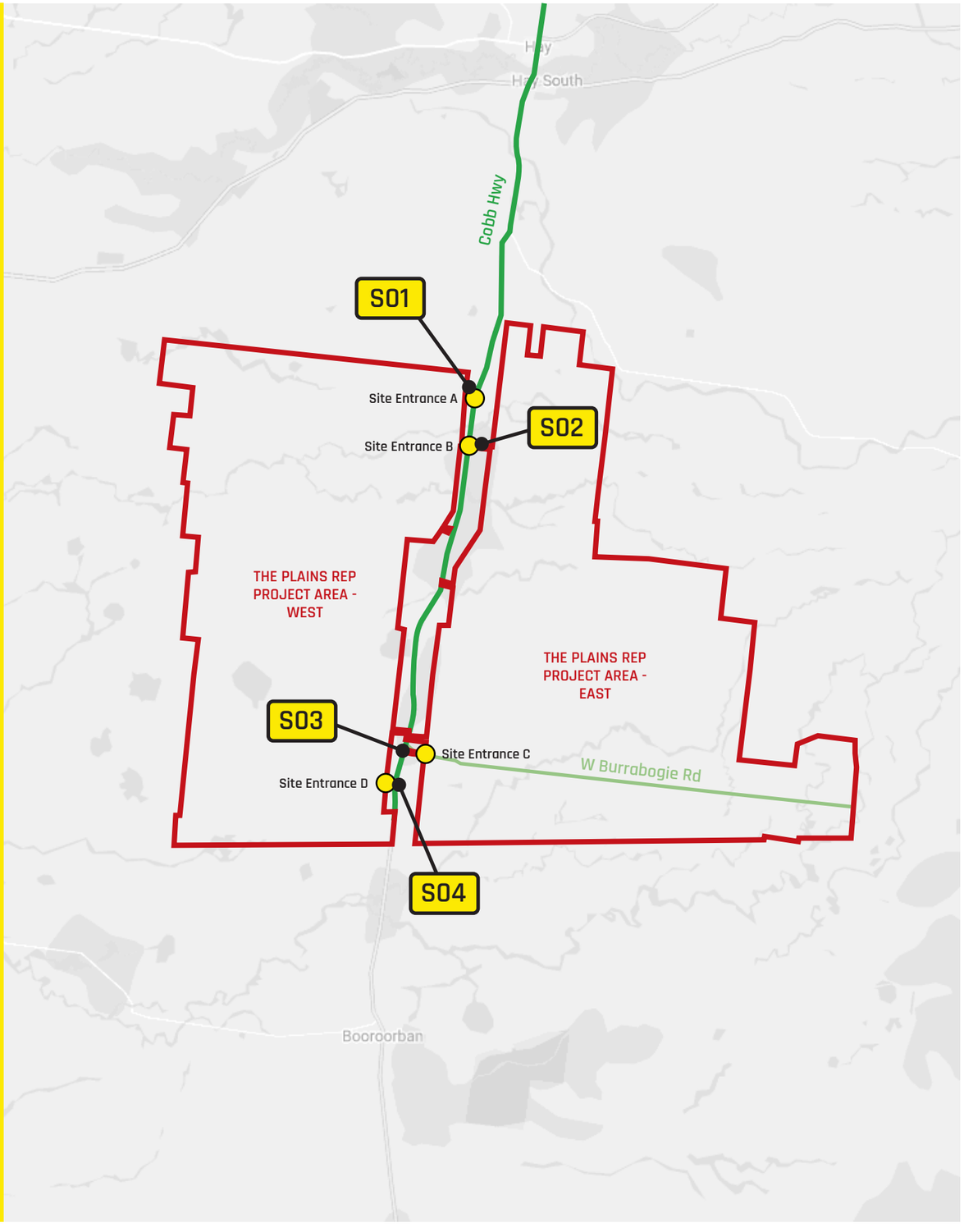
Title Reference	Address	Pinch Point	Owner(s)
6667/DP822054	Pinnacles Rd, Broken Hill	09A	State of NSW
302/DP1242250	Barrier Hwy, Broken Hill	09	Willyama Common Trust
7307/DP1179131	Barrier Hwy, Broken Hill	09	State of NSW
7400/DP1179151	Kanandah Rd, Broken Hill	09	State of NSW
7401/DP1179151	Kanandah Rd, Broken Hill	09	State of NSW
7320/DP1185108	Menindee Rd, Broken Hill	10A	State of NSW
7313/DP1185108	Menindee Rd, Broken Hill	10A/10B/10C	State of NSW
5658/DP757298	Chettle St, Broken Hill	10B	State of NSW
7318/DP1185108	Menindee Rd, Broken Hill	10C	State of NSW
5834/DP757298	Chettle St, Broken Hill	10C	State of NSW
100/DP1283323	397 Moama St, Hay South	11	APC Hay P/L

In the course of our searches we also noted a number of lots which seemed to be historical as they laid across existing roads. We have not performed title searches on these but have listed them for completeness below.

Title Reference	Address	Pinch Point
CT6144/634	12 Bishopstone Rd, Davoren Park	04
CT6144/635	12 Bishopstone Rd, Angle Vale	04
CT6144/636	LOT603 Angle Vale Rd, Angle Vale	04
CT5431/458	LOT1 Gawler North Ramp to Adelaide	05
Lots 5653 to 5657, DP757298	Sturt St, Broken Hill	10A/10B

03

Site Entrance Assessment



The Plains Site Entrances

There are four proposed site entrances to The Plains Renewable Energy Park project area, which spans both east and west sides of Cobb Hwy. They are, from north to south:

- Site Entrance A: Northern entrance to western precinct, turning directly off Cobb Hwy
- Site Entrance B: Northern entrance to eastern precinct, turning directly off Cobb Hwy
- Site Entrance C: Southern entrance to eastern precinct, off West Burrabogie Rd
- Site Entrance D: Southern entrance to western precinct, turning directly off Cobb Hwy

ARES examined the routes leading into each site entrance from Cobb Hwy as part of the survey.

SITE ENTRANCE A

SITE ENTRANCE B

SITE ENTRANCE C

SITE ENTRANCE D

Pinch Point

S01

RIGHT TURN
Cobb Hwy &
Site Entrance A

A new intersection will need to be built at this location turning right off the Cobb Hwy.

As the Cobb Hwy is a state road, WAD requirements will apply to modifications here.

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Pinch Point

S02

LEFT TURN
Cobb Hwy &
Site Entrance B

A new intersection will need to be built at this location turning left off the Cobb Hwy.

As the Cobb Hwy is a state road, WAD requirements will apply to modifications here.

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DRAWN DATE:	PROJECT:	The Plains R.E.P.	SCALE NTS
CHECKED BY:	DRAWING TITLE:	SWEPT PATH DRAWING	SHEET NO:
	DRAWING NAME:	Route Survey	REV

ARES PROJECT SERVICES PTY LTD - ABN: 45 643 587 115

Pinch Point

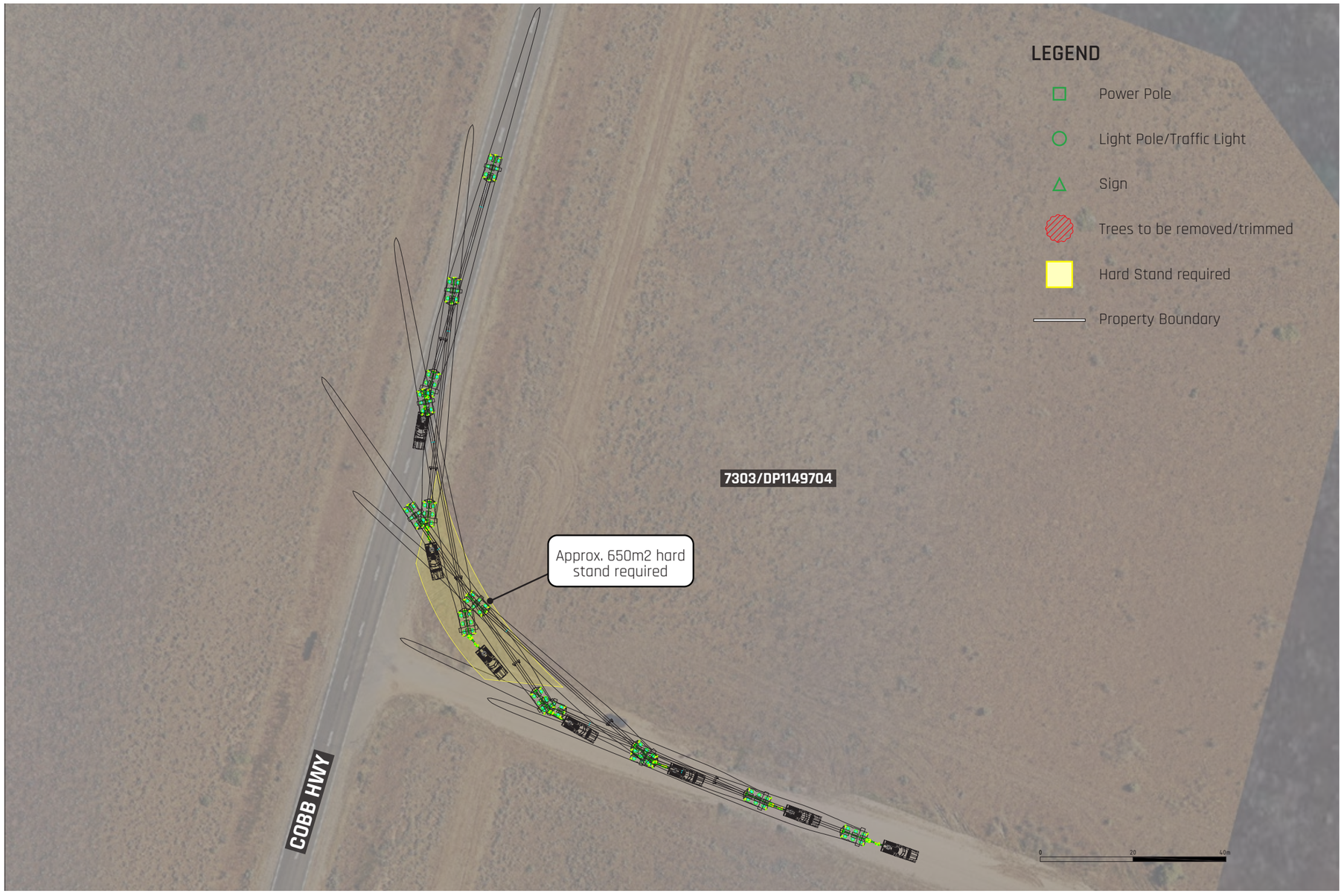
S03

LEFT TURN

Cobb Hwy &
W Burrabogie Rd

Site Entrance C is located at West Burrabogie Rd. The turn from Cobb Hwy onto this road will require some hard stand material to be laid down on the inside of the corner.

As the Cobb Hwy is a state road, WAD requirements will apply to modifications here.



DRAWING NOTES:

ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE (UNO) ALL WEIGHTS ARE IN t (METRIC TONNES) UNO ALL DETAILS ARE PROVISIONAL AND SUBJECT TO CONFIRMATION LASHINGS CALCULATIONS AS PER RESTRAINT GUIDELINES

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Pinch Point

S04

RIGHT TURN
Cobb Hwy &
Site Entrance D

A new intersection will need to be built at this location turning right off the Cobb Hwy.

As the Cobb Hwy is a state road, WAD requirements will apply to modifications here.

DRAWING NOTES:

ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE (UNO) ALL WEIGHTS ARE IN t (METRIC TONNES) UNO ALL DETAILS ARE PROVISIONAL AND SUBJECT TO CONFIRMATION LASHINGS CALCULATIONS AS PER RESTRAINT GUIDELINES

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CUSTOMER:	Engie	SIZE:
PROJECT:	The Plains R.E.P.	SCALE NTS
DRAWING TITLE:	SWEPT PATH DRAWING	SHEET NO:
DRAWING NAME:	Route Survey	REV

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04

Conclusion

Warradarge WF

A convoy of 3 blades leaves Henderson Port early in the morning on its way to site.

Conclusion

A brief outline of the report's major findings and any recommendations for actions to progress with the transport feasibility study.

> **...transport of 86m blades and 6.31m towers is feasible to The Plains R.E.P."**

Summary

Following our physical survey and swept path analysis, ARES believe that transport of turbine components including 86m GW86 blades and 6.31m towers is feasible from the **Port of Adelaide** to The Plains Renewable Energy Park.

Blades can be transported using state highways (Horrocks, Barrier and Cobb Hwys) with only minor detours. Modifications will be required at a number of pinch points, and some private land access will be required especially in the Broken Hill area, but there is no physical impediment to the blades along this route when using a conventional blade trailer setup.

For the tower sections, the overheight route from Adelaide is clear of any non-bypassable overhead structures. Overhead powerlines will need to be surveyed to gain an understanding of the quantity of lines requiring permanent lifting.

From a width perspective, travelling at 6.3m wide for such large distances will present challenges, but the quality of the roads being taken (overtaking lanes, rest areas, etc.) will mitigate these risks as much as reasonably practicable.

The Port of Adelaide is well suited to host the components for the project, having processed a number of significant wind projects in the recent past, including Goyder Wind Farm currently. Storage space is sufficient and the only concern would be if multiple wind projects were arriving into the port at the same time.

From the Stage 1 Desktop Assessment, Adelaide stood out as the best single-port solution for The Plains turbine components, and the physical survey and analysis has confirmed that it is an excellent option.

Next Steps

Based on the findings in this route survey, we recommend the following actions:

- Engage with transport authorities (DIT and TfNSW) for preliminary feedback on proposed routes
- Engage power authorities to perform overhead surveys in their respective jurisdictions
- Liaise with land owners affected by proposed routes
- Liaise with local councils along routes

Summary of Road Modifications

The following table lists all required modifications to allow transport of wind turbine components to take place.

Pinch Point	Road/Intersection	Modifications Required	Risk
01	Oceam Steamers Rd & Eastern Pde	Gate to be widened at storage area exit.	Low
02	Eastern Pde & Port River Expy	1 light pole and possibly 1 traffic light to be relocated (subject to blade tip positioning)	Medium
03	Port Wakefield Rd & Angle Vale Rd	Sections of W-beam barrier removed or replaced with removeable bollards, temporary hardstand to be laid down on median strips (approx. 900m2 total)	Medium
04	Angle Vale Rd & N-S Mwy	1 sign to be made removeable, 2 others to be checked for tip clearance	Low
05	Sturt Hwy & Horrocks Hwy	2 signs to be made removeable and 1 light pole to be relocated. Approx. 420m2 of temporary hardstand required.	High
06	Horrocks Hwy	Minor tree trimming south of Tarlee	Low
07	Barrier Hwy & Copperhouse Rd	2 signs to be made removeable, approx. 550m2 of temporary hardstand to be laid down	Medium
08	Copperhouse St & West St	Tree trimming and/or removal, approx. 150m2 of temporary hardstand to be laid down	High
09A/09B	Barrier Hwy @ BHSP	Construction of new temporary gravel bypass track to Gaffney St (approx. 5.5km). Track to be wind farm specification, i.e. min 5.5m width, suitable for min 14 tons per axle loading.	High
09C	Barrier Hwy 2.4km from Broken Hill	Construction of new temporary gravel bypass track to Gaffney St (approx. 3.7km). Track to be wind farm specification, i.e. min 5.5m width, suitable for min 14 tons per axle loading. New intersection off Barrier Hwy required. 1 sign to be moved.	Very High
10A	Crystal St & Sturt St	Temporary gravel track to be built through private land. Track to be wind farm specification, i.e. min 5.5m width, suitable for min 14 tons per axle loading. 1x sign to be made removeable.	High
10B	Chettle St & Barrier Hwy	Temporary gravel track to be built through private land. Track to be wind farm specification, i.e. min 5.5m width, suitable for min 14 tons per axle loading. An egress gate to be installed on Barrier Hwy.	Very High
10C	Sturt/Chettle St & Barrier Hwy	Temporary gravel track to be built through private land. Track to be wind farm specification, i.e. min 5.5m width, suitable for min 14 tons per axle loading. Multiple trees to be removed. 1 power pole to be relocated. Approx. 550m2 of temporary hardstand required. Fence to be realigned.	Very High
11	Cobb Hwy	3 light poles to be relocated, and 3 signs to be made removeable, 300m2 of temporary hardstand to be laid down	High

05

Appendices

Murra Warra WF

Deliveries to Murra Warra included towers up to 5.8m in diameter - the largest ever at the time.

ARTC Rail Crossing Requirements

From: ODL Permits
To: Gillian Etherington
Cc: Ian Wong; ODL Permits
Subject: RE: OSOM Rail enquiry for ARES / JMI
Date: Friday, 1 March 2024 2:06:06 PM
Attachments: image001.png
image002.png
ARTC Tower Route-Rail-Level-Crossing-Permit-Application-Form.pdf
ARTC Blade Route-Rail-Level-Crossing-Permit-Application-Form.pdf

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Hi Gill

As discussed, ***this information is subject to change***, but as a guide I have listed the crossings being considered for this project and the dimensions limits that may make a difference to the necessary protection requirements from ARTC for the individual crossings.

Road Name	Area / Suburb	ALCAM No.	Track km	Line
Eastern Pde / Grand Trunkway	Gillman	1887	6.768	Dry Creek - Port Flat
Wilkins Hwy	Caltowie	854	60.795	Crystal Brook - Cockburn
Appila Rd	Jamestown	863	71.703	Crystal Brook - Cockburn
OD5 Rd	Jamestown	865	73.481	Crystal Brook - Cockburn
Angle Vale Rd	Virginia	72	36.815	Adelaide - Crystal Brook
Barrier Hwy	Ucolta	901	124.645	Crystal Brook - Cockburn
Barrier Hwy	Mingary	938	309.699	Crystal Brook - Cockburn
Cobb Hwy	Ivanhoe	1040	816.098	Goobang Junction - Broken Hill

Height
There are no overhanging assets at the above listed ARTC level crossings to be considered

Width
The maximum width before requiring a Rail Safety Worker (RSW) present is 6.45m. If you exceed this width, there will be certain crossings listed above that will be required to have a RSW in attendance each time to traverse.

Length
The length varies for each crossing, depending on their current settings. The length increments that may affect the safety requirements are 26m, 30m, 36.5m. Any loads 40m and above will require a RSW in attendance each time you traverse.

Weight
The level crossings listed above are ok for loads up to 150 tonnes, however the maximum axle weight should also be considered. Anything above 16 tonnes per axle will need closer assessment.

Please note that the longer loads (e.g. blades) will be required to provide a Travel Management Plan to ARTC with their permit application, outlining how they intend to traverse each level crossing (e.g. swept path, approach and exit angles)

Please note that if a Stop & Report permit is issued, the loads need to consider a safe location where they can make the call to our network control to gain clearance to traverse the crossings. ARTC are not responsible for these locations, but this needs to be considered when planning so the loads are not blocking the roads while awaiting approval from ARTC Network Control.

Warm Regards

Suzanne Marshall
Project Administrator
Third Party Works

General Enquiries:
P. 08 8112 0300
E. Admin.TPW@artc.com.au

Direct:
P. 08 8217 4435
M. 0484 249 187
E. SMarshall@ARTC.com.au

ODL Permit Applications:
P. 08 8112 0300
E. ODL.permits@artc.com.au

Australian Rail Track Corporation
11 Sir Donald Bradman Drive
Keswick Terminal
Mile End SA 5031

artc.com.au

From: Gillian Etherington <gill@millarinvestments.com.au>
Sent: Thursday, 29 February 2024 4:17 PM
To: ODL Permits <ODL.permits@ARTC.com.au>
Cc: Ian Wong <ian.wong@aresgroup.com.au>
Subject: [EXT] RE: OSOM Rail enquiry for ARES / JMI

Hi Suzanne,

As discussed, this project has been approved but is still in planning stage.
There will be up to 226 wind turbines, transported in sections from Port of Adelaide to Booroorban, near Hay in NSW.
Please see attached application forms.
One for the Tower high load route – Route ID 1HG7Q-6 v2
One for the Blade long load route – Route ID 1HG7Q-6 v1

Our client is seeking an in-principal approval and/or written advice as to any special requirements (e.g supervision). There are some smaller loads within gazette dimensions also (5m wide, 5m high and 30m long).

Thank You

Aurizon Rail Crossing Requirements

From: Gillian Etherington
To: Ian Wong
Subject: FW: [EXTERNAL SENDER] OSOM Rail enquiry - ARES / JMI
Date: Monday, 18 March 2024 4:37:28 PM
Attachments: image003.png
image004.png
image005.png

Hi Ian,

Please see below from Aurizon.

Only two crossings.
One on Ocean Steamers Rd, pending which berth loads are imported from.
One at Snowtown for the towers up to 50m.

Stop and Report required when exceeding 50 metres.

Kind Regards,

GILLIAN ETHERINGTON
ARES GROUP
P: 1300 243 289 | M: +61 413 109 262
E: gillian.etherington@aresgroup.com.au | W: www.aresgroup.com.au

ISO 9001 | ISO 14001 | ISO 45001

Follow us:

From: Sims, Mark <Mark.Sims@aurizon.com.au>
Sent: Monday, March 18, 2024 4:12 PM
To: Gillian Etherington <gill@millarinvestments.com.au>
Subject: RE: [EXTERNAL SENDER] OSOM Rail enquiry - ARES / JMI

Hi Gillian,

Depending on what berth you are departing from on Ocean Steamers road, we have one level crossing that runs into Viterra that may or may not affect your passage.

If you are on the North side and traverse over it then we will need to put in a stop and report in place before crossing as your blade lengths are over 50 meters.

The other active Aurizon level crossing is at Snowtown that will be traversed by your 50 meter towers this is on the limit but should be fine.

AURIZON
Mark Sims
Service Coordinator Bulk South
Bulk
Bulk Central
T 0419032139 / M
1 Kidman Rd , Dry Creek, South Australia 5094
Mark.Sims@aurizon.com.au / aurizon.com.au

From: Gillian Etherington <gill@millarinvestments.com.au>
Sent: Wednesday, 28 February 2024 8:56 AM
To: Sims, Mark <Mark.Sims@aurizon.com.au>
Subject: [EXTERNAL SENDER] OSOM Rail enquiry - ARES / JMI

Hi Mark,

As recently discussed,
We have been engaged to assist with transport enquiries for a state significant renewable energy project.
We have researched most suitable routes for various oversize components from Port of Adelaide to The Plains, via Broken Hill..
Can you please advise of the Aurizon rail crossing requirements for the routes below?

Route 1 – required for overheight components. Overall width 6.31m, overall height 6.31m, overall length up to 50m.

Ocean Steamers Rd – Rail at Port of Adelaide
Eastern Parade
Port River Expy A9
Salisbury Hwy A9
Port Wakefield Rd/ Princes Hwy A1
Princes Hwy / Augusta Hwy A1- Rail at Snowtown
Wilkins Hwy B79 – Rail at Caltowie
Detour at Jamestown
    Via Apilla Rd – Rail
    Boundary Rd, Princes Hwy, RM Williams Rd
    OD 5 Rd - Rail
Wilkins Hwy B78
Jamestown Whyte-Yarcowie Rd
Whyte Road
Barrier Hwy A32 to Wilcannia - Rail at Ucolta, and Mingary
Cobb Hwy B75 to Booroorban, NSW – Rail at Ivanhoe

Route 2 – required for length. Overall width 5m, overall height 5m, overall length up to **100m**.

Ocean Steamers Rd – Rail at Port of Adelaide
Eastern Parade
Port River Expy A9
Northern Connector
Port Wakefield Rd/ Princes Hwy A1
Angle Vale Rd – Rail at Virginia
Northern Expy M2
Horrocks Hwy / Main Nth Rd B82 – Disused Rail at Roseworthy,
Barrier Hwy A32 – Disused Rail at Tarlee
Detour at Burra
    Via Copperhouse Rd, West St – Disused Rail
Barrier Hwy A32 to Wilcannia – Rail at Ucolta, and Mingary
Cobb Hwy B75 to Booroorban, NSW – Rail at Ivanhoe

I'll also be contacting ARTC.
If you need further information please let me know

Thank You

Kind Regards,

www.aresgroup.com.au

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