



Transport Impact Statement

Project: Proposed Sand Extraction
Lot 4 King Road, Oldbury
Client: Aigle Royal Developments
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1. Introduction

1.1. Background

Shawmac Pty Ltd has been commissioned by Aigle Royal Developments to prepare a Transport Impact Statement (TIS) for proposed sand extraction in Oldbury. Sand is being extracted from Lot 4 King Road in Oldbury and delivered to Lot 1 Abernethy Road in Byford for a proposed development.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*.

1.2. Site Location

The site address is Lot 4 King Road in Oldbury. The local authority is the Shire of Serpentine-Jarrahdale (the Shire).

The general site location is shown in **Figure 1**. An aerial view of the existing site is shown in **Figure 2**.

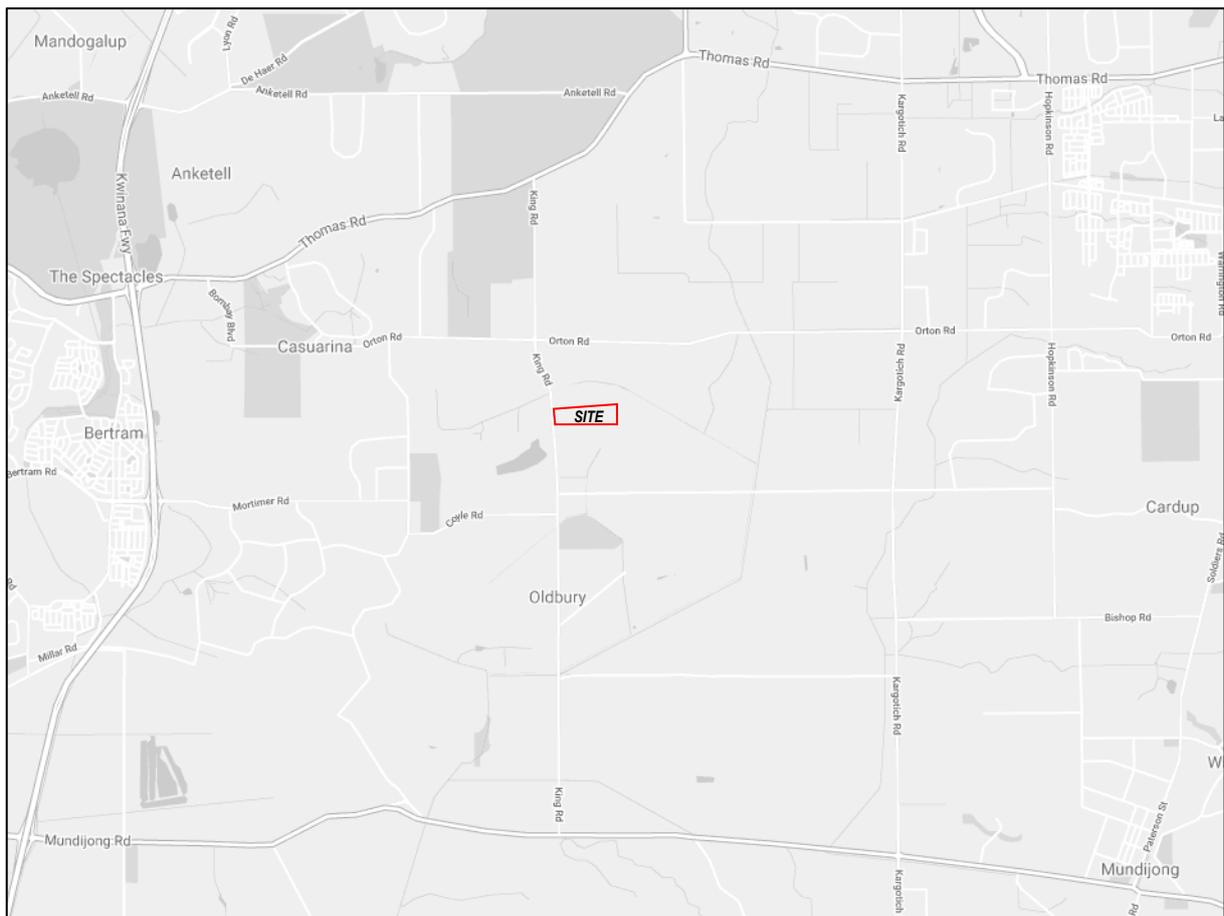


Figure 1: Site Location



Figure 2: Aerial View (December 2020)



2. Proposed Development

2.1. Land Use

The site is currently undeveloped. Vehicle access is currently via a driveway at the southern boundary of the site.

The proponent is proposing to extract sand from the site over a period of 12 months with an estimated extraction volume of approximately 140,000m³.

The proposed operating hours are from 7am to 5pm, Monday to Friday.

Sand will be delivered from the site using semi-trailers. The proposed destination is Lot 1 Abernethy Road in Byford and the proposed route is along King Road, Orton Road, Kargotich Road and Abernethy Road.

The proposed extraction plan is shown in **Figure 3**.

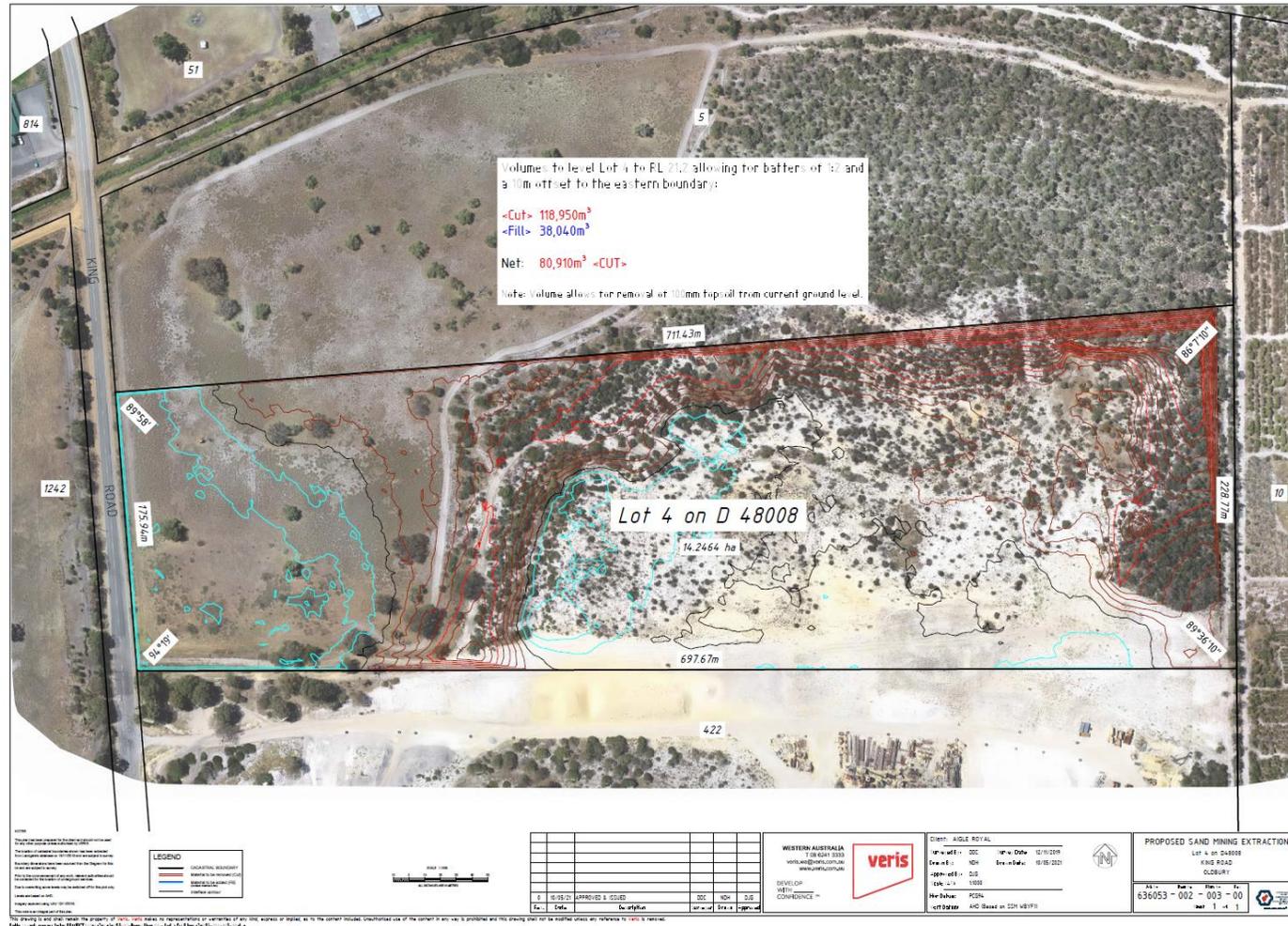


Figure 3: Site Layout



3. Traffic Management on Frontage Streets

3.1. Road Network

3.1.1. Existing Road Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in **Figure 4**.

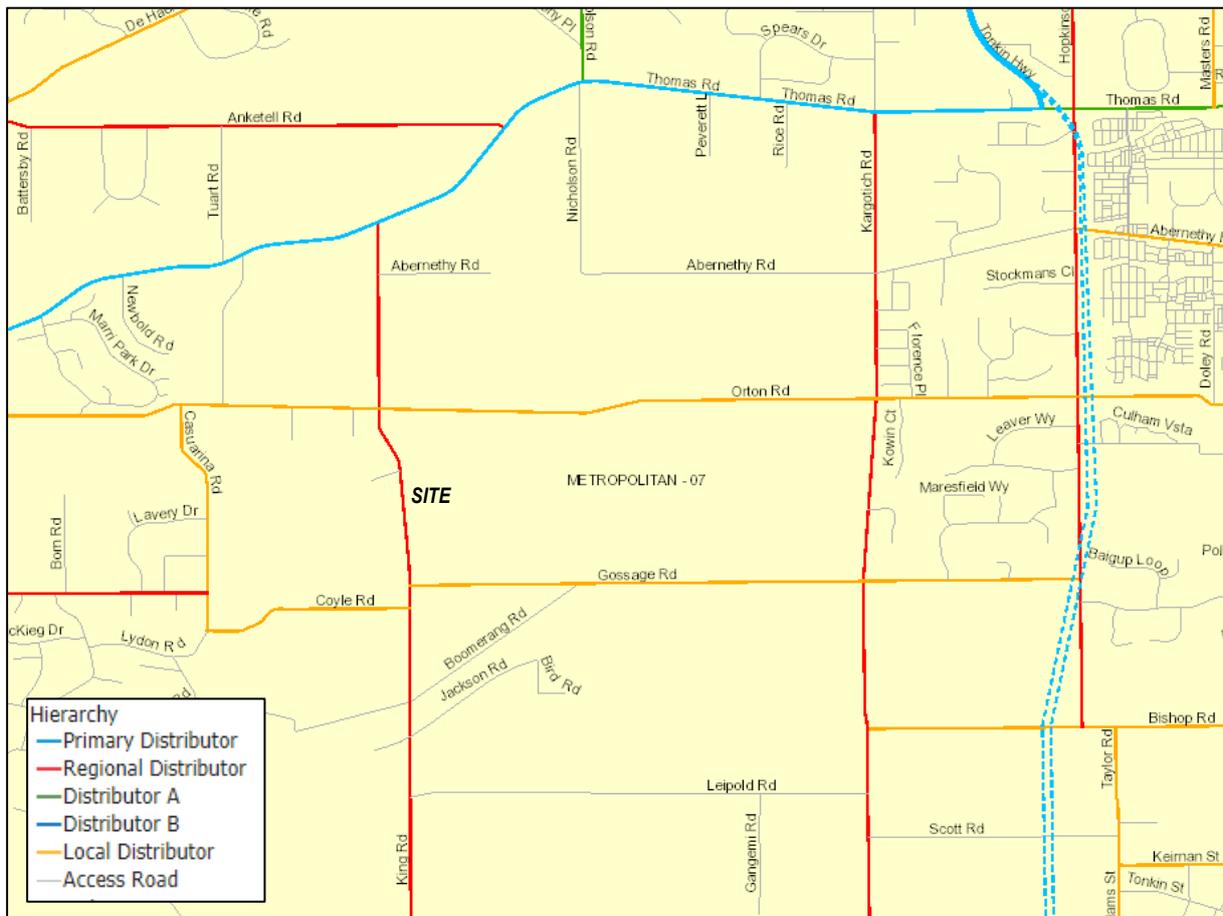


Figure 4: Existing Road Network Hierarchy



3.1.2. Carriageway Width and Cross Section

The configuration of the relevant existing roads is summarised in **Table 1**.

Table 1: Road Configuration

Road and Location	Road Type	Cross Section	Speed Limit (km/h)
King Road	Regional Distributor	2-lane single carriageway	100km/h (80km/h near Orton Road)
Orton Road	Local Distributor	2-lane single carriageway	90km/h
Kargotich Road	Regional Distributor	2-lane single carriageway	90km/h
Abernethy Road west of Hopkinson Road	Access Road	2-lane single carriageway	80km/h
Abernethy Road east of Hopkinson Road	Local Distributor	2-lane single carriageway (dual carriageway east of Kardan / Tourmaline)	60km/h

3.2. Traffic Volumes

The latest traffic volumes on the proposed delivery route have been obtained from Main Roads WA and the Shire. The latest average weekday traffic volumes are summarised in **Figure 5**.

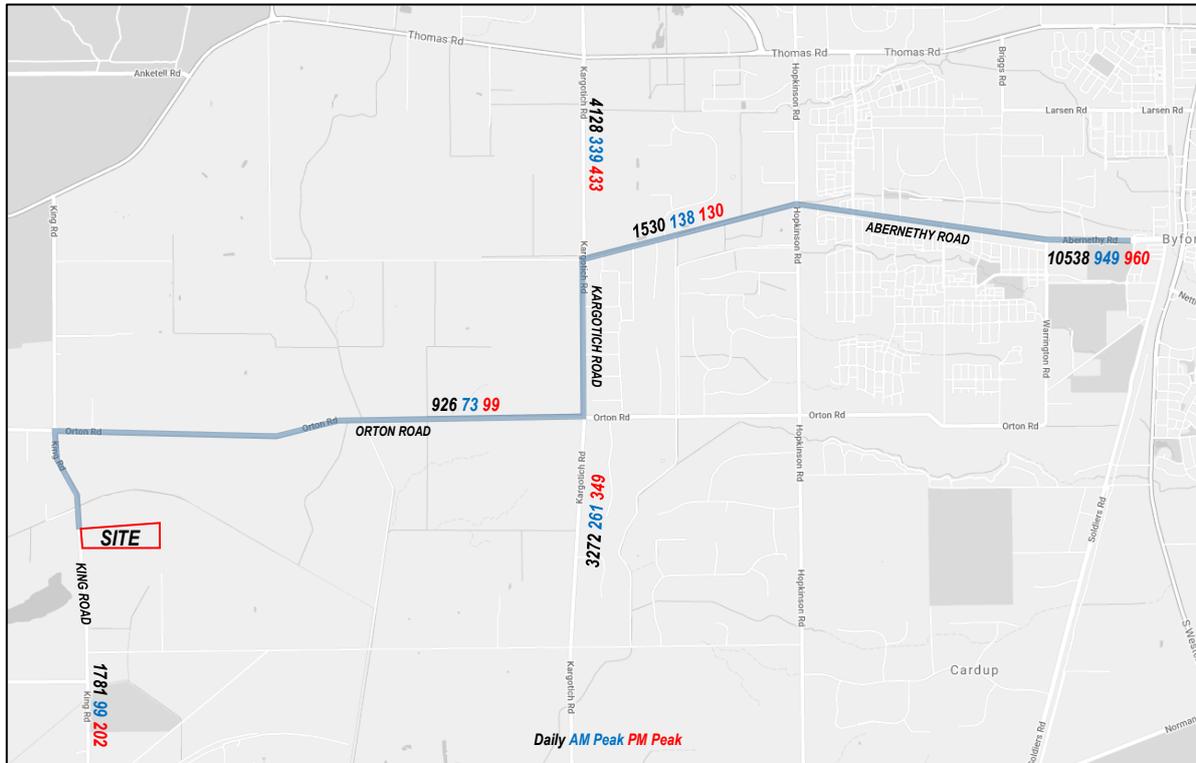


Figure 5: Average Weekday Traffic



4. Vehicle Access and Parking

4.1. Access

Vehicle access to site will be via the existing crossover on King Road. Sight distance requirements from commercial crossovers is defined in Figure 3.3 of Australian Standard AS2890.2-2018 *Parking facilities Part 2: Off-street commercial vehicle facilities (AS2890.2)* as shown in **Figure 6**.

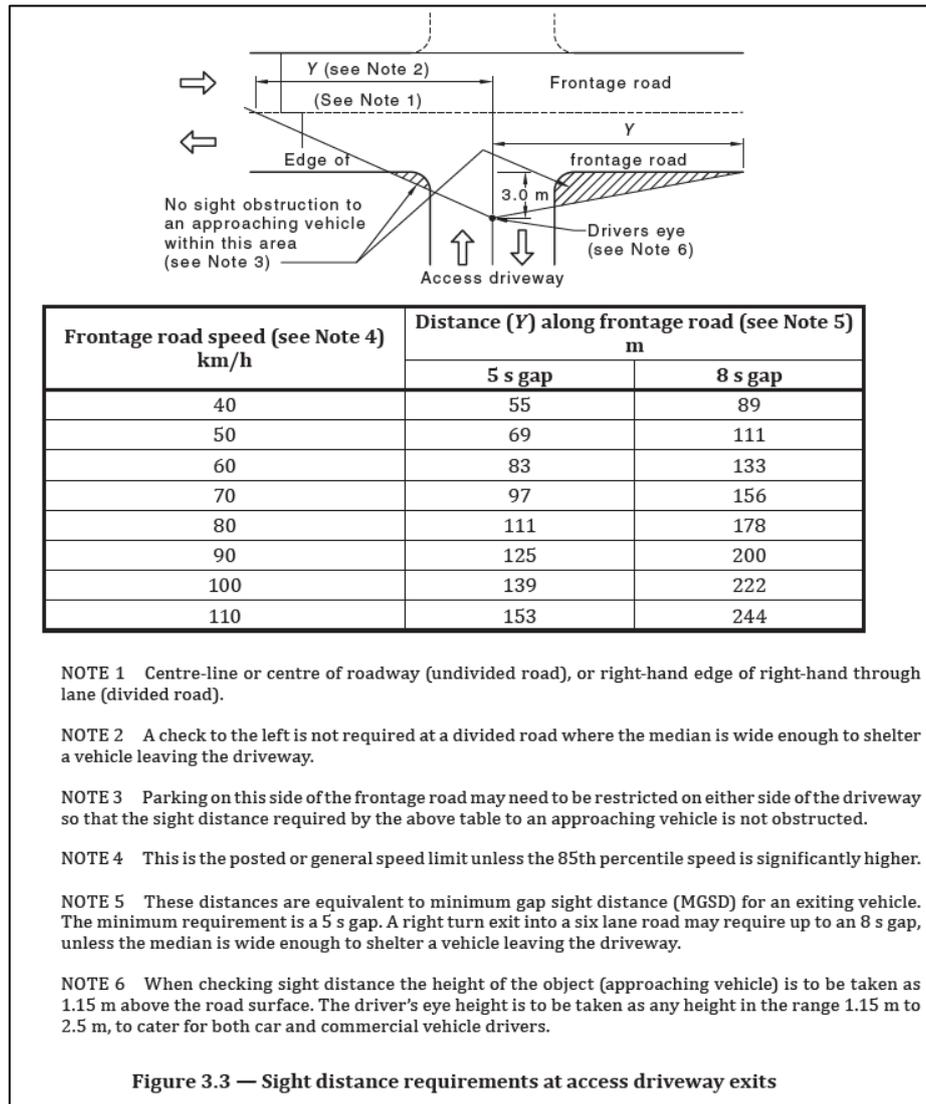


Figure 6: Sight Distance Requirements

Based on the 100km/h speed limit along King Road, the required sight distance is 139m. As shown in **Figure 7**, the alignment of King Road is relatively straight and the 139m horizontal sight distance is achieved in both directions. The fringing vegetation on the north side of the crossover may need to be monitored over time and trimmed as required to maintain sight distance.



Figure 7: Sight Distance Check – King Road

Vertically, there is a crest located approximately 260m south of the proposed access point and so the required sight distance is not impacted.



5. Traffic Impact

5.1. Traffic Generation

The proposed operations will generate approximately 44 semi-trailer truck trips per day (44 inbound movement and 44 outbound movements) for a period of 12 months.

The proposed operating hours are from 7am to 5pm Monday to Friday and so the hourly traffic generation is estimated to be 4 to 5 truck trips per hour.

The existing and proposed traffic volumes along the truck route are detailed in **Table 2**.

Table 2: Traffic Volume Summary

Road and Location	Existing Daily Traffic	Operations Traffic	Proposed Daily Traffic
King Rd – Access to Orton Rd	1,781	88	1,869
Orton Rd – King Rd to Kargotich Rd	926	88	1,014
Kargotich Rd – Orton Rd to Abernethy Rd	3,500 estimated	88	3,588
Abernethy Rd – Kargotich Rd to Kardan Blvd	1,530	88	1,618
Abernethy Rd – Kardan Blvd to Lot 1	10,538	88	10,626

According to the WAPC TIA guidelines, a development generating less than 10 vehicle trips in the peak hour is considered to have a low impact.

As the proposal will generate less than 10 vehicle trips per hour and will only operate for 12 months, the proposal is considered to have a low traffic impact and the traffic generated can be accommodated within the existing capacity of the road network and detailed capacity analysis is not warranted.



6. Road Safety Assessment

6.1. Crash History

The crash history of the proposed route was obtained from the Main Roads WA Reporting Centre.

A summary of crashes over the 5-year period between January 2016 and December 2020 is shown in **Figure 8** and **Figure 9**.

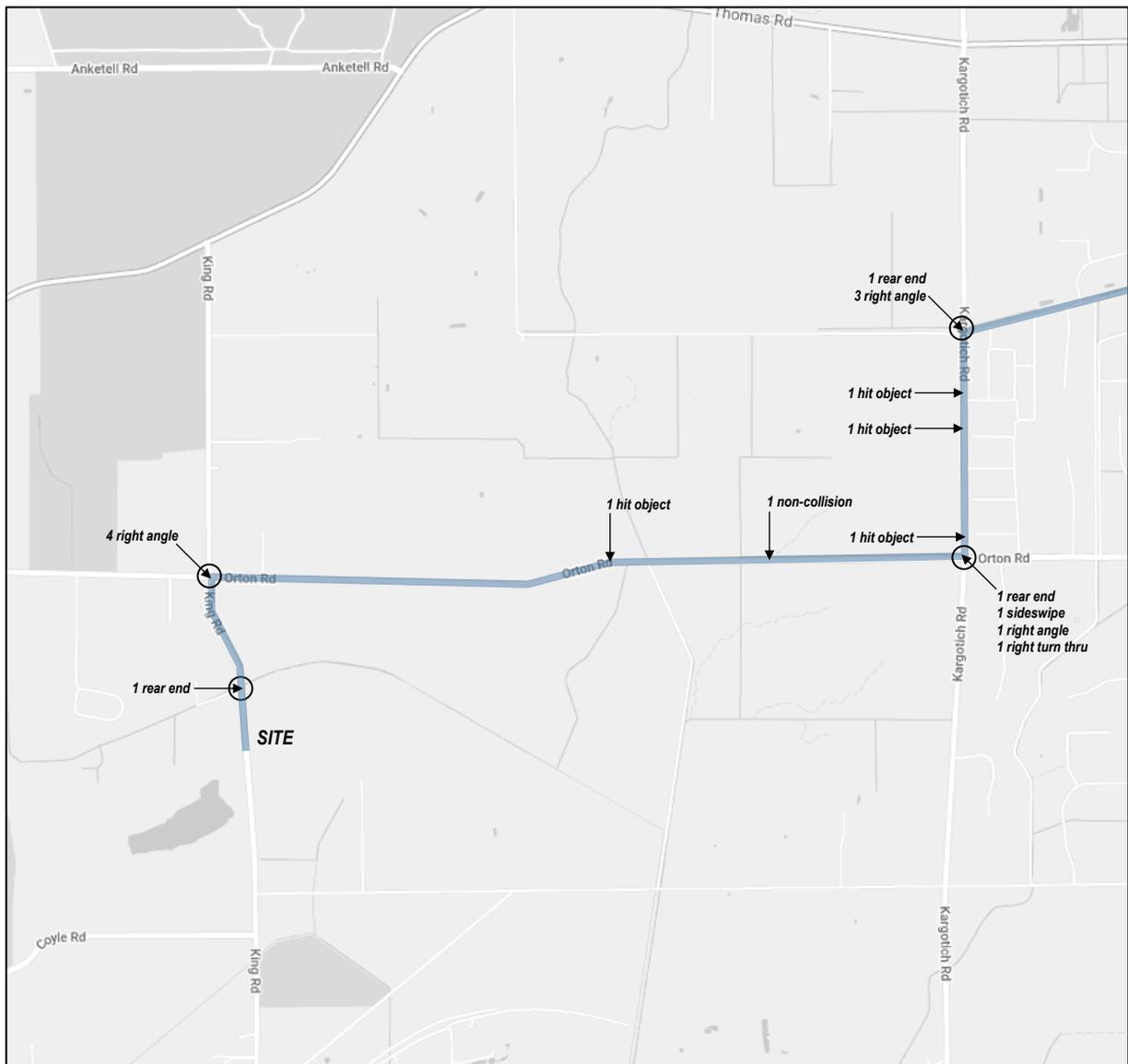


Figure 8: Crash History – Site to Kargotich Road

As shown, the crash history from the site to Abernethy Road is relatively low and no major safety issues are identified. There are 4 right angle crashes at the King Road / Orton Road which may warrant further investigation by the Shire.

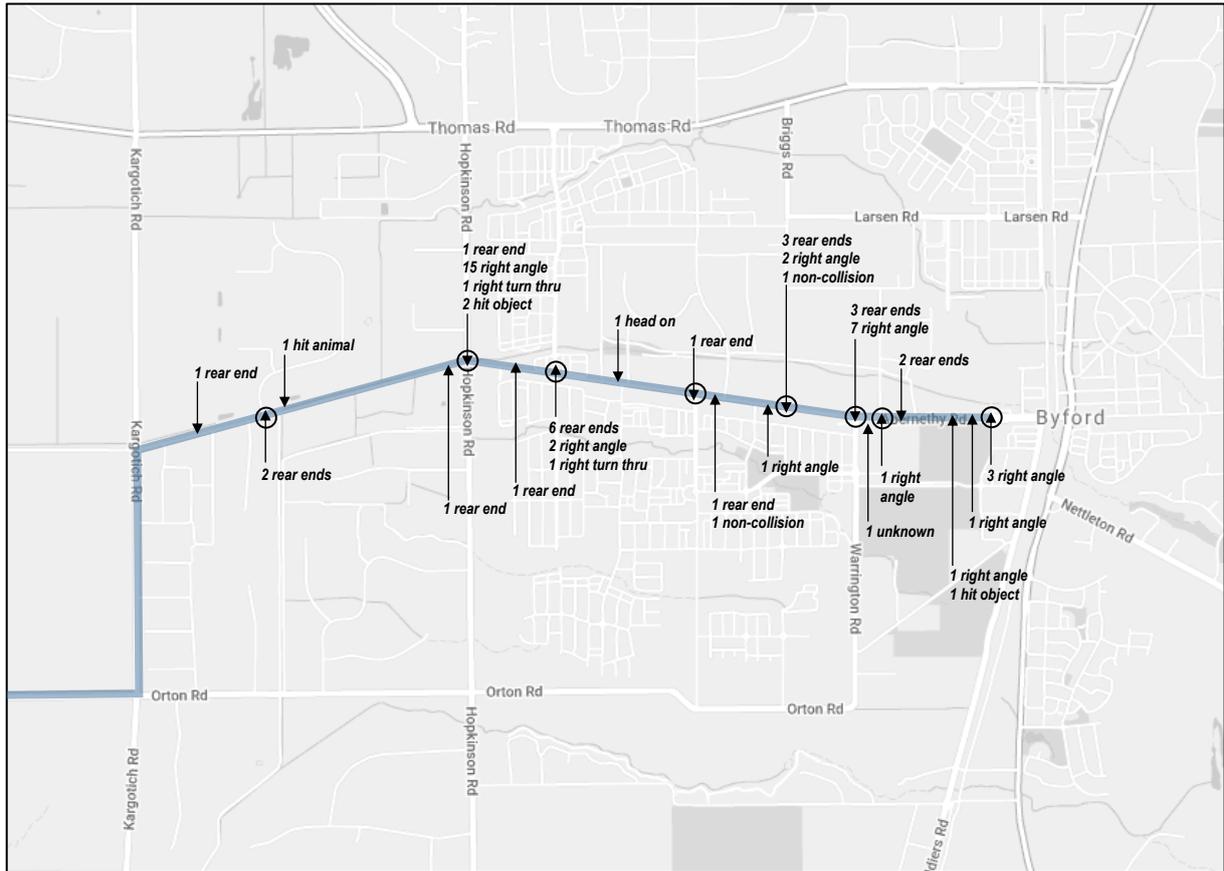


Figure 9: Crash History – Abernethy Road

As shown, there are a number of crashes recorded along Abernethy Road with a concentration of crashes at the Hopkinson Road intersection, the Kardan Boulevard / Tourmaline Boulevard Intersection and the Warrington Road intersection.

Abernethy Road between Soldiers Road and Kardan Boulevard was recently upgraded from a single carriageway to a dual carriageway and various key intersections were upgraded to roundabouts including at Warrington Road, Kardan Boulevard and Tourmaline Boulevard. This is likely to improve the safety at these locations and reduce the likelihood of future crashes.

The Abernethy Road / Hopkinson Road intersection has recorded 15 right angle crashes over a five year period including one fatality in 2016. The proposed Tonkin Highway extension will eventually replace this section of Hopkinson Road by passing the highway over Abernethy Road. The current timeframe for completion is in 2024.

The proposal itself will generate a relatively low amount of traffic on an infrequent basis and is unlikely to increase the risk of crashes unacceptably.



7. Conclusion

A Transport Impact Statement for the proposed sand extraction at Lot 4 King Road in Oldbury concluded the following:

- The proposed operations will generate a relatively low amount of traffic for a limited time period (12 month period). The existing road network will have sufficient capacity to accommodate the traffic generated by the development and no modifications are required.
- The available sight distance from the existing site access meets the minimum Australian Standard requirements.
- A review of the crash history identified a number of crash locations along Abernethy Road which are likely to have been adequately addressed by the recent upgrade to a dual carriageway with roundabouts at key intersections. The proposal itself is unlikely to increase the risk of crashes unacceptably.