Agenda Item 11.5 - Attachment 2

Updated Transport Impact Statement (22 December 2022)

Onslow Township Village - Lot 300 Back Beach Road, Onslow

UPDATED TRANSPORT IMPACT STATEMENT FOR AMENDED DEVELOPMENT APPLICATION

Uloth & ASSOCIATES

22 December 2022

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TECHNICAL APPENDIX A

1. INTRODUCTION

Mineral Resources Limited is preparing for the Onslow Iron Project, which is located within the existing Pilbara Port Authority boundaries at the Port of Ashburton, approximately 12 kilometres south-west of Onslow. To accommodate the workers required for the proposed project, a 412-bed 'Resort Style FIFO Accommodation' facility is also proposed, at Lot 300 Back Beach Road, Onslow, which is located at the north-western end of the Onslow Townsite as shown in the Locality Plan in Figure 1.

An initial Development Application for the proposed 'Onslow Township Village' was conditionally approved by the Regional Joint Development Assessment Panel on 23 December 2021. An amended Development Application was then also approved on 24 August 2022. However, further amendments are now also proposed, including significant changes to the access arrangements (now proposed off Back Beach Road, rather than Third Avenue).

1.1 STUDY OBJECTIVES

The overall study objective is to identify the existing situation in the immediate vicinity of the proposed development site and to prepare a Transport Impact Statement to address the various traffic access, parking, and servicing requirements in support of the amended development application.

Locality Plan and Proposed Development Site

LOT 300 BACK BEACH ROAD, ONSLOW

FIG. 1

2. EXISTING SITUATION AND PROPOSED DEVELOPMENT SITE

Onslow is located approximately 1,400 kilometres north of Perth in the Pilbara region, within the Shire of Ashburton. The existing situation within and around the Onslow Townsite is described in this chapter, together with additional detail in the vicinity of the proposed development.

- It can be seen in the Locality Plan in Figure 1 (in Chapter 1) that access for the Onslow Townsite is to/from the south via Onslow Road (which links to North West Coastal Highway approximately 75 kilometres to the south-east). It can also be seen that Onslow Road continues north to the western end of the Townsite (along the Onslow ring road, which was constructed in around 2016), with the former alignment of Onslow Road (now McAullay Road) providing access to the eastern end of the Townsite.

- Onslow Road is a 2-lane undivided road, which is identified as a Primary Distributor Road under the Main Roads WA functional road hierarchy up to the intersection of Back Beach Road where it continues as Simpson Street, a local Access Road. It has a speed limit of 80 kilometres per hour from south of McAullay Road to approximately 400 metres south of Back Beach Road where it drops to the default built-up area limit of 50 kilometres per hour.

- Traffic counts obtained from the Main Roads WA Trafficmap website show that Onslow Road carried up to 500 vehicles per day in 2019, approximately 10 kilometres south of McAullay Road.

- McAullay Road is also a 2-lane undivided road, which was downgraded to an Access Road under the Main Roads WA functional road hierarchy after the continuation of Onslow Road. It has an initial speed limit of 80 kilometres per hour from Onslow Road but drops to 60 kilometres per hour as it approaches the Townsite once past Onslow Airport.

- Second Avenue, the main street through the commercial area of the townsite, is identified as a Local Distributor road under the Main Roads WA road hierarchy, while all other roads in Onslow are identified as Access Roads, with a speed limit of 50 kilometres per hour (except for Seaview Drive which has a speed limit of 70 kilometres per hour).

- The existing road network within the overall Townsite is shown in the aerial photograph in Figure 2, while further detail in the vicinity of the proposed development site is shown in Figures A.1 and A.2 in the Technical Appendix.

- It can be seen in Figure 2 that the proposed development site is conveniently located at the northern end of the Townsite, within walking distance of commercial and local community facilities. The site is currently vacant and is bordered by Back Beach Road at the southern end, Simpson Street, First Street and Third Avenue on the eastern end, and by coastline along the remaining property boundary. The site is currently classed as Conservation, Recreation and Nature Landscape Land Use under Shire of Ashburton's Local Planning Scheme No.7.

- Figure A.1 (in Chapter A.1 in the Technical Appendix) then shows that most roads in the vicinity of the site are sealed roads. However, First Street west of Third Avenue and Third Avenue north of First Street, are both currently unmade, as also shown in Figure A.2.

- Onslow is not serviced by regular public transport. However, there are footpaths on at least one side of most roads in the vicinity of the proposed development, as shown in Figure A.3 in the Technical Appendix, providing good walking connectivity throughout the Townsite and convenient access to local amenities.

Existing Road Network

OVERALL ONSLOW TOWNSITE

FIG. 2

3. ONSLOW TOWNSITE EXPANSION STRUCTURE PLAN

The Onslow Townsite Expansion Structure Plan was prepared in 2016, around the time of construction of the Onslow ring road (now Onslow Road), to facilitate a strategic long-term population target of 3,500 people.

- The overall Structure Plan is shown in Figure A.4 in the Technical Appendix, identifying growth areas for residential development between Onslow Road and McAullay Road, together with the proposed road hierarchy and pedestrian/cyclist paths throughout the overall Townsite.

- It can be seen in Figure A.4 that the currently proposed development site, at the northern end of the Structure Plan area, is identified as 'Area Subject to Further Investigation'.

- The plan also identifies the full length of Onslow Road plus Simpson Road up to Second Avenue as an Arterial/Primary Distributor Road, while McAullay Road and Second Avenue are both identified as Neighbourhood Connectors.

- It can also be seen that both Onslow Road - Simpson Street and Second Avenue are identified as part of the 'Shared Path Network', ensuring good pedestrian and cyclist accessibility throughout the Townsite.

4. PROPOSED DEVELOPMENT

Details of the proposed development are described in this chapter, together with calculations of overall parking requirements and trip generation.

4.1 OVERALL SITE PLAN

- The proposed Masterplan for the Onslow Township Village is shown in Figure A.5 in Chapter A.3 in the Technical Appendix, as prepared by architects Milieu Creative. Figure 3 then shows the proposed development plan superimposed on an aerial photograph, identifying the proposed development in the context of the adjacent road network. The proposal includes construction of 412 accommodation pods (reduced from 500), plus Administration and Training facilities (including a Creche), a Medical Centre, a Restaurant and a Tavern, as well as recreational facilities including a Swimming Pool, Gym and outdoor recreation areas.

- It can be seen in both Figure 3 and Figure A.5 that the accommodation pods are primarily located in the southern part of the site, while the administration and other facilities are located in the northern part adjacent to the proposed car park. The plan has also been modified to include a new internal roadway from the car park and service areas (in the north-east part of the site) to a proposed new access driveway off Back Beach Road (at the southern end of the site) approximately 130 metres from the intersection with Simpson Street and Onslow Road.

- It can also be seen that on entering the site from Back Beach Road, the internal roadway sweeps around the south-eastern edge of the accommodation pods to provide direct access to the proposed car park, or to allow buses to proceed into the bus pick-up/drop-off area which then loops back onto the main access driveway. Paved walkways are then proposed throughout the various facilities, providing access also for motorised carts and maintenance vehicles (as well as for fire access), with elevated boardwalks providing further access into the accommodation areas.

- It is also important to note that to align with the Onslow Townsite Expansion Plan, it is proposed that both the Restaurant and Tavern will be made partially available to the local community.

- It is expected that the development will remain as Transient Workforce accommodation for a minimum of 20 years, for the duration of the mining project. Post operation, there is potential to convert the site into a permanent resort, reducing the number of accommodation pods to perhaps 100 units (with public access to on-site facilities continuing as currently proposed).

4.2 PROPOSED FACILITIES AND PARKING REQUIREMENTS

- Details of the proposed facilities are provided below in Table 1, together with calculations of Planning Scheme parking requirements and applied reductions to reflect the expected usage of each component. Initial parking requirements are based on the Table in Appendix 8 of Shire of Ashburton's Local Planning Scheme No. 8, except for the Public Recreation land uses, which have been based on detailed individual requirements currently utilised by City of Stirling (and deemed to be appropriate here).

- Parking calculations for the Restaurant and Tavern are both based on the Shire of Ashburton's requirement of 1 space per 6 square metres of Dining Space, with floor areas as identified in the detailed floor plans.

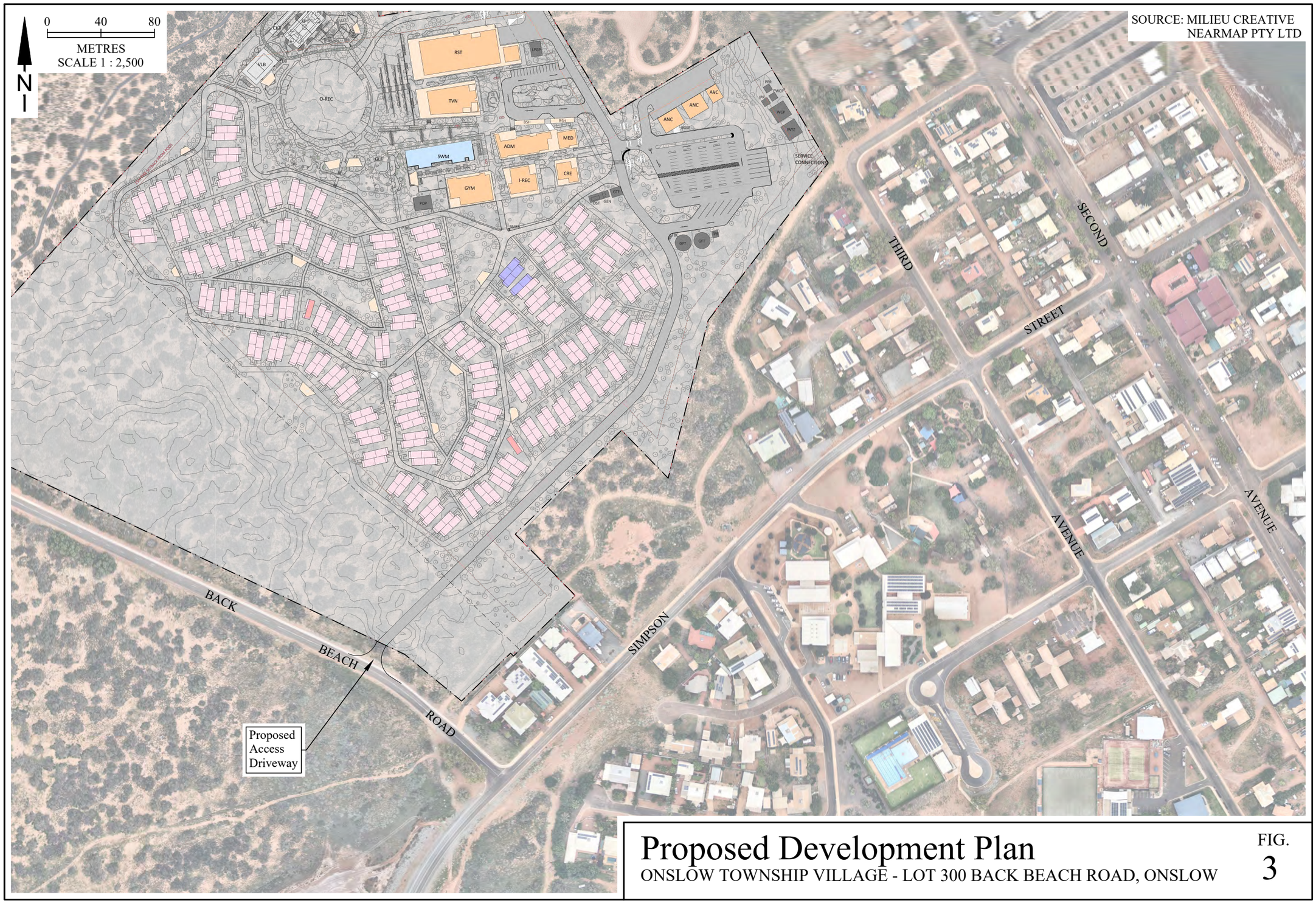
- It can be seen in Table 1 that an overall parking provision of 54 spaces is recommended (reduced from 57 spaces under the previous plan). This allows for a 90 percent reduction for the accommodation units (to account for buses being used to transport most workers), a 70 percent reduction for Administration/Training and Medical Centre (to account for use predominantly by on-site staff, but allowing for some local staff) and a 70 percent reduction for the Restaurant and Tavern (to account for an intended 30 percent public-use for each of these facilities), and a 100 percent reduction for the Recreation facilities (as these will only service the on-site population). It is also assumed that the Creche will not contribute to any additional parking requirements, based on 100 percent usage by workers, staff and visitors.

TABLE 1
PARKING REQUIREMENT CALCULATIONS
PROPOSED ONSLOW TOWNSHIP VILLAGE

	PLANNING SCHEME REQUIREMENTS		PARKING REQUIREMENTS	
PROPOSED LAND USE	Parking Ratio	No. of Spaces	Assumed Operations	No. of Spaces to be provided
• Accommodation Units - 412 Units, but max. 250 occupied at one time	2 per 3 units + 1 Oversize Veh. per 10 units	167 car spaces + 25 oversize spaces	90 percent to travel only by Bus	17 car spaces + Bus/Coach spaces [1)]
• Administration and Training - 285m^2 [2)]	1 per 30m^2 NLA	10 spaces	70 percent reduction for on-site operations	3 spaces
• Medical Centre - Assume 3 Rooms, with 5 employees	4 per Room for 1st 2 Rooms + 1 per Room thereafter + 1 per max. employees on-site	14 spaces	70 percent reduction for on-site operations	5 spaces
• Restaurant - 336m^2 Dining Area [3)]	1 per 6m^2 of Dining area	56 spaces	70 percent reduction for on-site operations	17 spaces
• Tavern - 238m^2 Dining Area [3)]	1 per 6m^2 of Dining area	40 spaces	70 percent reduction for on-site operations	12 spaces
• Public Recreation [4)] - Swimming Pool: 618m^2 - Gym: 336m^2	1 per 4 Swimmers [5)] + 1 per 20m^2 public gym area	35 spaces	100 percent reduction for on-site operations	0 spaces
Total Parking Requirements				54 car spaces + Bus/Coach spaces

Notes:
1) Assumed combination of 50-seat coaches and 22-seat buses, as advised by Mineral Resource Limited
2) Includes Reception, Managers Offices, Open Plan Office, Meeting Room and Kitchen/Staff Break Room, plus Training Rooms.
3) As shown on detailed floorplans.
4) Car parking calculations based on City of Stirling requirements.
5) Assumes 72 swimmers maximum at any one time.

Source: Uloth and Associates, December 2022



Proposed Development Plan

ONSLOW TOWNSHIP VILLAGE - LOT 300 BACK BEACH ROAD, ONSLOW

FIG. 3

4.3 VILLAGE OPERATIONS AND RESULTING TRAFFIC GENERATION

Details regarding traffic generation for the proposed development are separated into 'Airport Transfers and Worksite Operations' and then 'Village Operations and Public Facilities'.

4.3.1 Airport Transfers and Worksite Operations

- All workers accommodated at the proposed Village will be Fly-in/Fly-out (FIFO) workers, with a maximum occupancy of 250 minesite workers plus 50 village staff accommodated at any one time.

- Transport to/from the Airport from the Village will occur 7 days per week, with staff from inbound flights arriving around 9am, and staff for outbound flights departing at around 4pm daily. Airport transfers will be serviced by one 22-seat bus plus one light vehicle for each flight, resulting in a total of 8 vehicle trips per day.

- The mining worksite will operate 24 hours per day, 7 days per week, with two 12-hour shifts each day. Of the 250 workforce, it is expected that 150 will work the day shift from 6am to 6pm, with the remaining 100 working night shift from 6pm to 6am.

- Provision has been made on site for pick-up and drop-off of workers via 4 coach sized Bus Bays (on the left-hand side of the 1-way Bus loop), in addition to 4 layover bus bays on the right-hand side. However, it is expected to utilise a maximum of two to three 55-seat coaches plus two to three 22-seat buses to transport workers to the work site for the start of each shift, before returning to the village with workers that just completed their shift. Together with an assumed 10 percent of workers driving ancillary vehicles, it is therefore estimated that a maximum of perhaps 70 to 80 vehicle trips per day will be generated by this component of the proposed development, with a proposed travel route via Third Avenue, Simpson Road and Onslow Road, as indicated in Figure 4.

4.3.2 Village Operations and Public Facilities

- In addition to Fly-in/Fly-out workers, it is also expected that the resort operational staff could include perhaps up to 10 staff that live locally, who will therefore travel to and from the site each work day for standard day-time shifts between 7am and 5pm.

- Service and delivery vehicles will also access the site, as follows:
  - General Waste Disposal: 1 Truck per Day
  - Other Waste/Recycling: 1 Truck per Week
  - Delivery Truck: 1 Truck, 2-3 times per Week
    (Food, General Supplies & Disposables)
  - Maintenance: 1 Light Vehicle, 2 times per Week
  - Resort Cleaning: 1 Light Vehicle per Day

- Public access to on-site facilities is proposed as follows, noting that the hours of public-use availability have now been reduced in response to community concerns:
  - Restaurant: Breakfast 8 - 10.30am, Lunch 12 - 3pm
  - Tavern: 9am - 5pm

- For traffic generated by members of the public using the on-site facilities, standard trip generation calculations have been carried out with a similar methodology to the parking calculations identified above in Table 1, including reductions to account for on-site operations.

- Based on industry-standard trip generation rates for 'High-turnover Sit-Down Restaurant' and 'Drinking Place', it is estimated that the external-use component of the proposed on-site facilities will generate a maximum of 40 vehicle trips (in and out combined) during the overall peak hour. This would typically translate to an estimated 430 vehicle trips per day under normal commercial operations. However, with the proposed restriction of public-use availability, it is estimated that the

maximum flow of 40 vehicle trips accessing the site during the overall peak hour will translate to a maximum of approximately 200 vehicle trips per day. This is just a slight reduction from 210 vehicles per day under the previous plan.

- The anticipated travel routes and estimated daily traffic flows accessing the proposed public-use facilities are therefore as shown in Figure 5, with a traffic distribution based on expected travel routes to and from the existing residential areas.

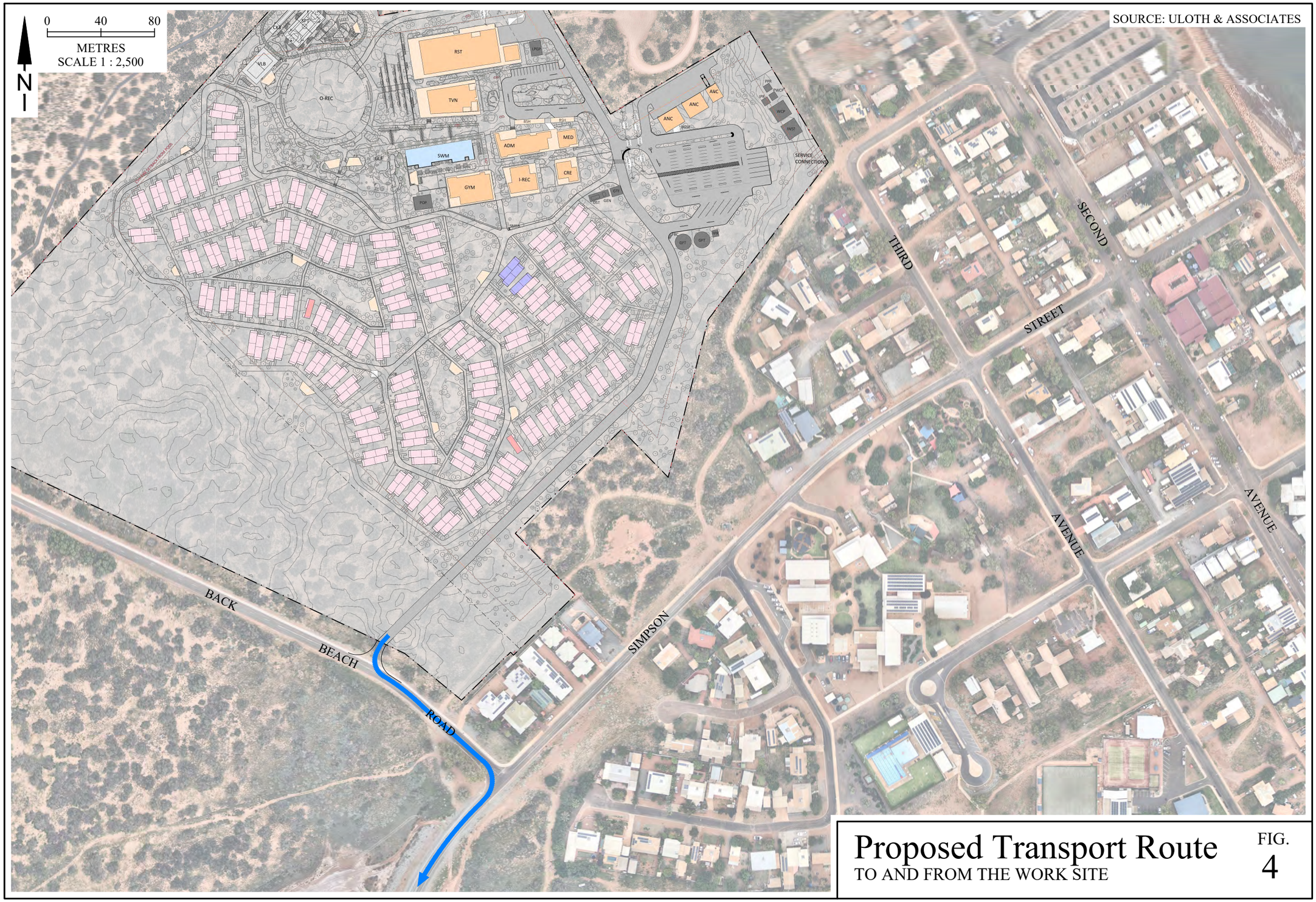
4.3.3 Total Trip Generation and Traffic Impacts

- On the basis of the above calculations and assumptions, the total trip generation for the proposed development is 320 vehicle trips per day, with 49 vehicle trips per day during the critical afternoon peak hour, broken down as follows:
  - To/from Airport: 10 vpd (4 in peak hour)
  - To/from Worksite: 80 vpd (0 in peak hour)
  - Locally-Based Staff: 20 vpd (5 in peak hour)
  - Service Vehicles: 10 vpd (0 in peak hour)
  - Public Use of Facilities: 200 vpd (40 in peak hour)
  - Total: 320 vpd (49 in peak hour)

- These anticipated future traffic flows are well within the available capacity for both Back Beach Road and its intersection with Simpson Street - Onslow Road.

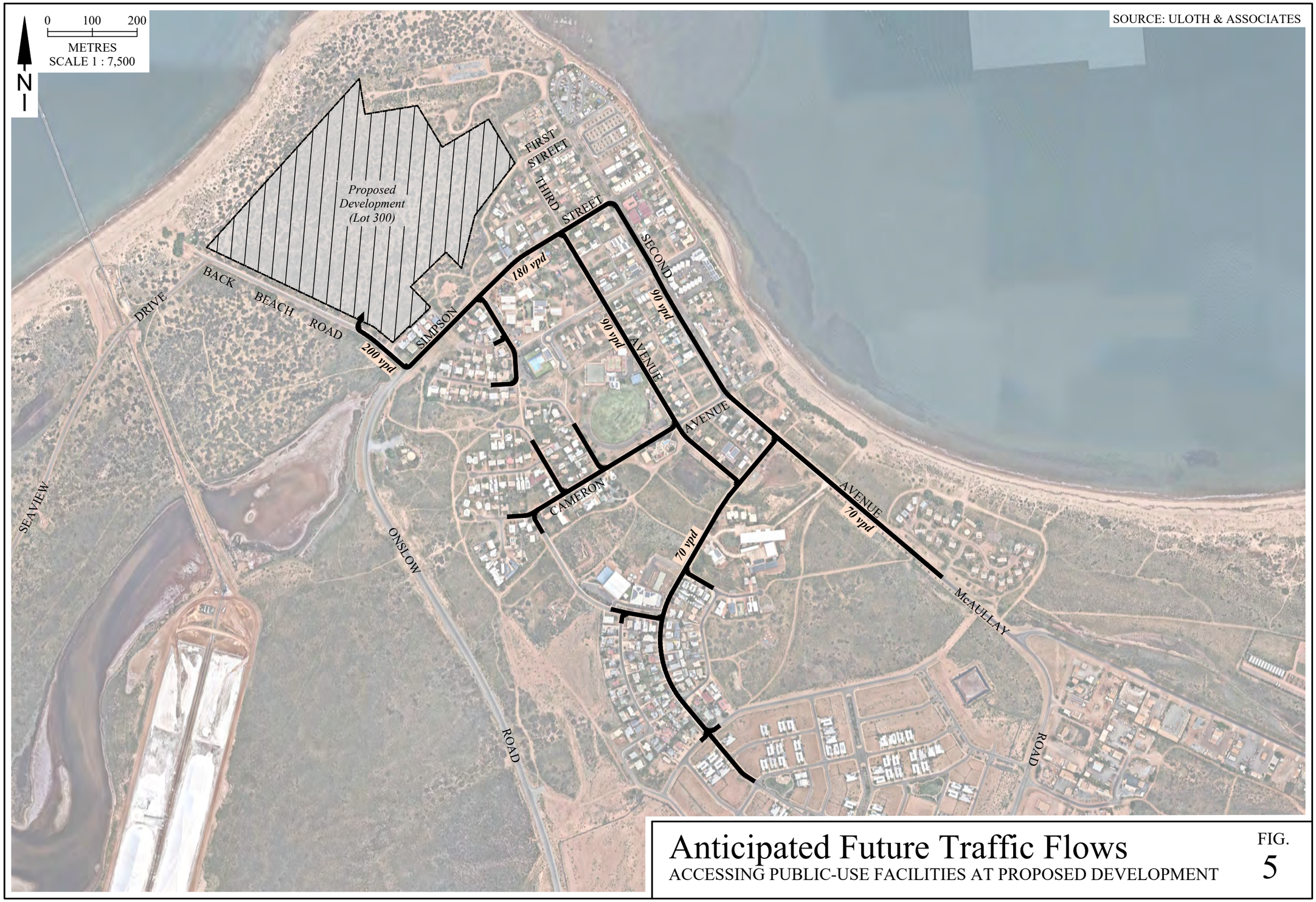
- Noting that the above calculations are based on just 10 percent of staff travelling to/from the worksite in private vehicles, a number of sensitivity tests have also been carried out. This analysis shows that if the proportion of staff travelling by private vehicle increases to 30 percent, then the overall trip generation of the site will increase to 420 vehicle trips per day (but still with just 49 vehicle trips during the critical PM peak hour, since there are no worksite trips during the peak hour).

- Even if the proportion of staff travelling via private vehicle increased to 50 percent, the total traffic generation of the overall site would only increase to 520 vehicle trips per day, but still with just 49 vehicle trips per hour during the PM peak hour.



Proposed Transport Route
TO AND FROM THE WORK SITE

FIG. 4



Anticipated Future Traffic Flows

ACCESSING PUBLIC-USE FACILITIES AT PROPOSED DEVELOPMENT

FIG. 5

5. ACCESS ARRANGEMENT, PARKING AND SERVICING

The recommended access arrangement off Back Beach Road is shown in Figures 6 and 7 in Chapter 7 Overall Conclusions and Recommendations, while the proposed parking and service areas are shown in Figure 8.

- Access to the development site is proposed off Back Beach Road via an access driveway located approximately 130 metres from the intersection with Simpson Street and Onslow Road, as shown in Figure 6, and with a recommended concept plan as shown in Figure 7. A 2-way internal road will then provide access to/from the proposed parking area (with 70 car bays proposed), noting that the main car park has been designed to allow all vehicles to both enter and exit all parking bays in forward gear, without the need to reverse.

- Access is also provided to a 1-way bus pick-up/drop-off area (adjacent to the Administration building) as well as to the proposed service yard adjacent to the restaurant at the northern end. A separate roadway is also proposed to the south of the Administration building, providing for Fire and Emergency Services access to the paved pathways that extend throughout the site.

- Figure A.6 (in Chapter A.4 in the Technical Appendix) shows the swept paths for 12.5-metre Heavy Rigid Vehicles accessing the proposed driveway off Back Beach Road, while Figures A.7 and A.8 show the swept paths for Buses accessing the proposed pick-up/drop-off area and the main parking area, respectively.

- Figure A.9 then shows the swept paths for a 12.5-metre Heavy Rigid Vehicle accessing the proposed service yard next to the restaurant, while Figure A.10 shows the swept paths for a 10-metre rubbish truck accessing the Bin Stores within both the service yard (next to the Restaurant) and the maintenance yard. Figure A.11 then confirms the swept paths for a Medium Rigid Vehicle accessing the proposed Maintenance Area and the Fire Access route to/from the internal pathways.

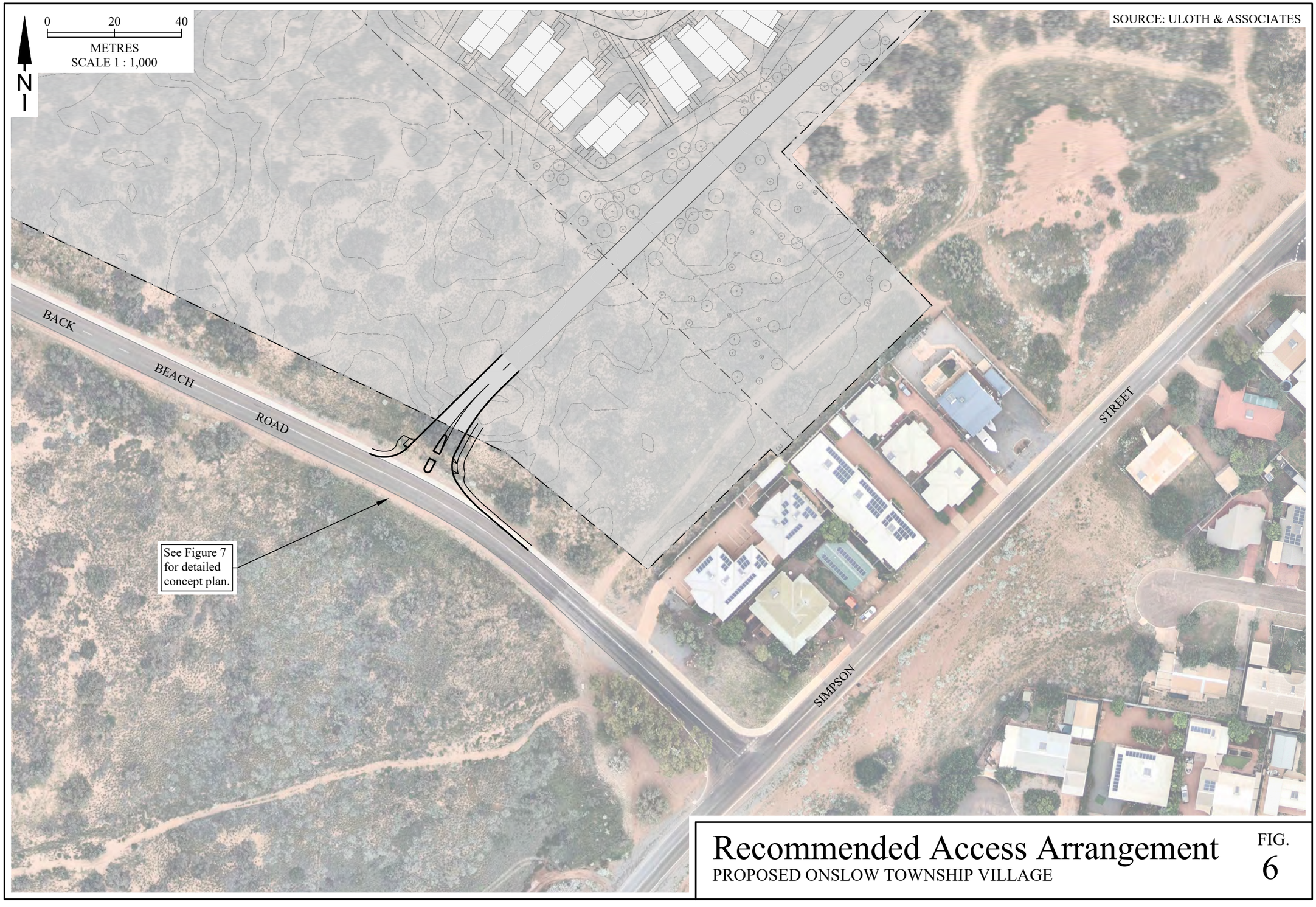
6. PEDESTRIANS AND CYCLISTS

As part of the proposed access arrangement, it is recommended to also provide a footpath connection to Back Beach Road. The recommended future pedestrian/cyclist path network is therefore as shown in Figure 9 in Chapter 7, including connections to the ‘future Shared Paths’ identified within the Townsite Expansion Structure Plan.

7. OVERALL CONCLUSIONS AND RECOMMENDATIONS

The overall conclusions and recommendations regarding the proposed development are detailed in this chapter, on the basis of the study findings and conclusions presented and discussed above in Chapters 2 to 6, and the additional information in the Technical Appendix, as follows:

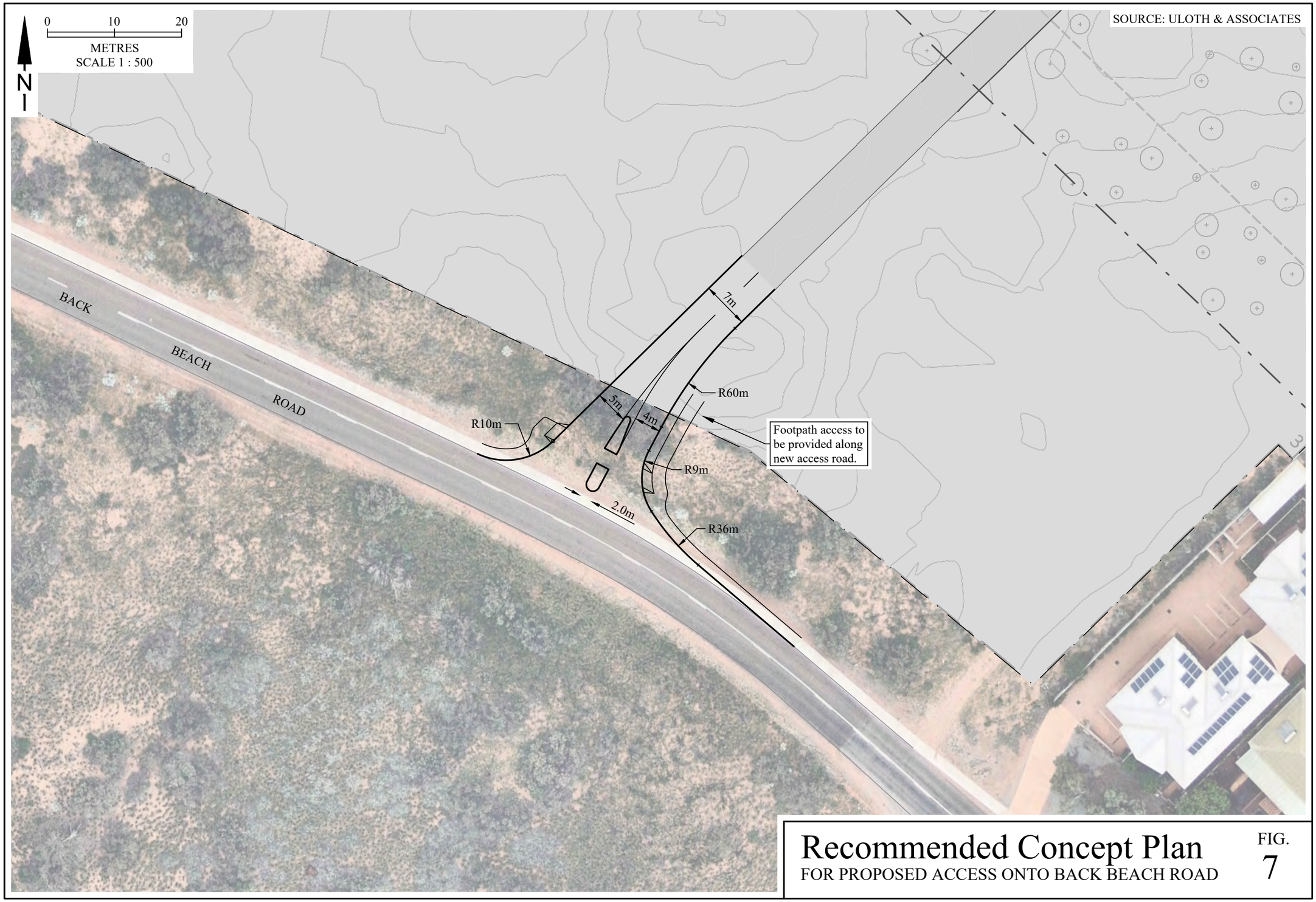
- It is recommended to provide access to/from the site via a new driveway off Back Beach Road approximately 130 metres from the intersection with Simpson Street and Onslow Road, as indicated in Figure 6, with a more detailed layout as shown in the concept plan in Figure 7.
- It is recommended to provide a minimum of 54 car parking spaces for the proposed operation of the Onslow Township Village as calculated in Table 1 in Chapter 4, in addition to parking for Buses transporting workers to and from the worksite.
- The proposed car park layout and internal access roads are as shown in Figure 8, including the proposed Bus pick-up/drop-off area, and the proposed service yard and maintenance area.
- It is recommended to also construct a footpath along the proposed access road off Back Beach Road, to provide connections to the existing and proposed paths within the adjacent areas, resulting in the future pedestrian/cyclist path network as shown in Figure 9.
- With most of the workforce population to be transported to/from the work site by bus, the proposed workforce operations are only expected to generate up to 70 or 80 vehicle trips per day, which will not have any significant impact on the adjacent roads and intersections.
- Additional traffic will also be generated by members of the public accessing the shared on-site facilities, with an estimated maximum of 40 vehicle trips (in and out combined) during the overall peak hour, and an estimated maximum of 200 vehicle trips per day.



Recommended Access Arrangement

PROPOSED ONSLOW TOWNSHIP VILLAGE

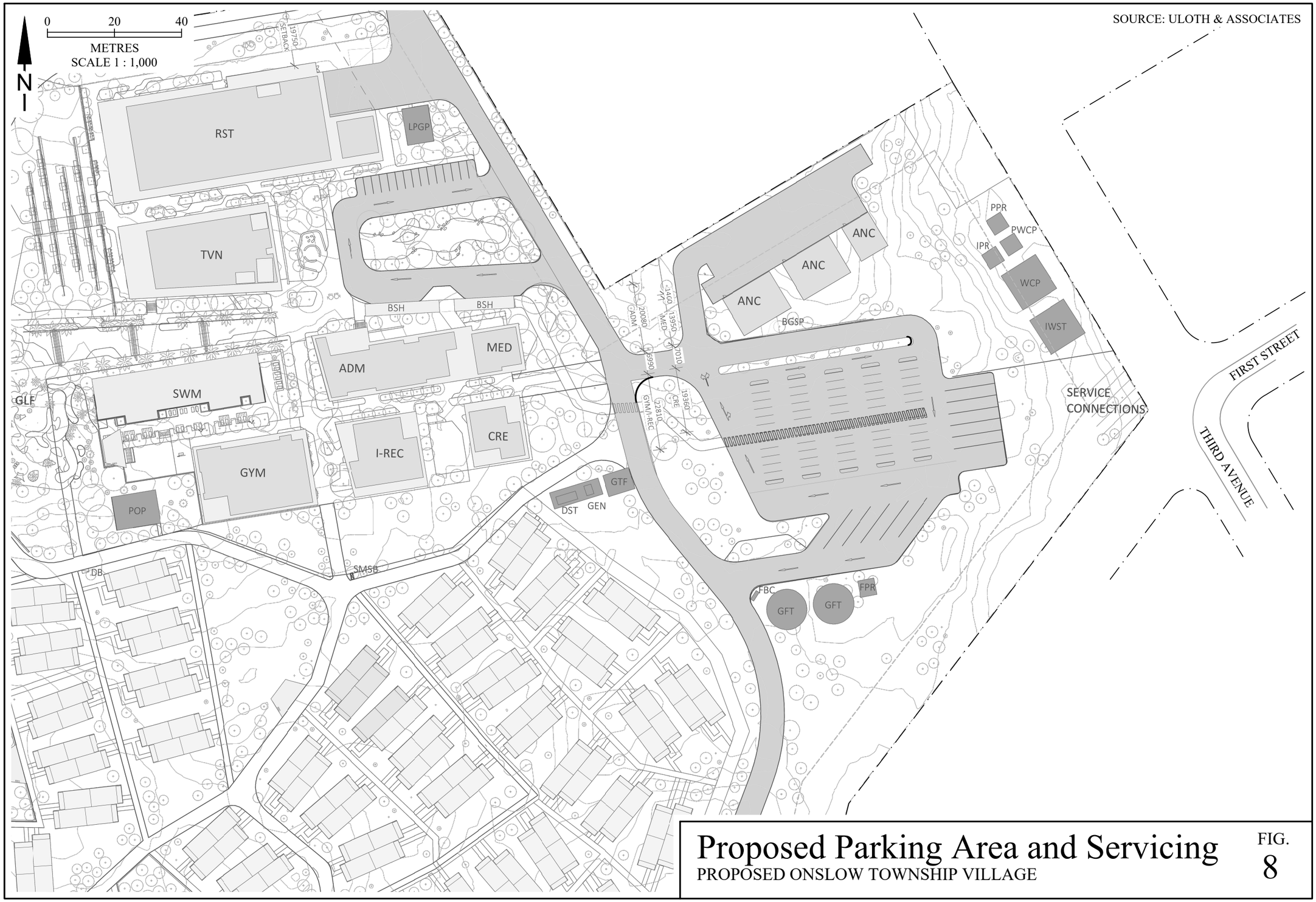
FIG. 6



Recommended Concept Plan

FOR PROPOSED ACCESS ONTO BACK BEACH ROAD

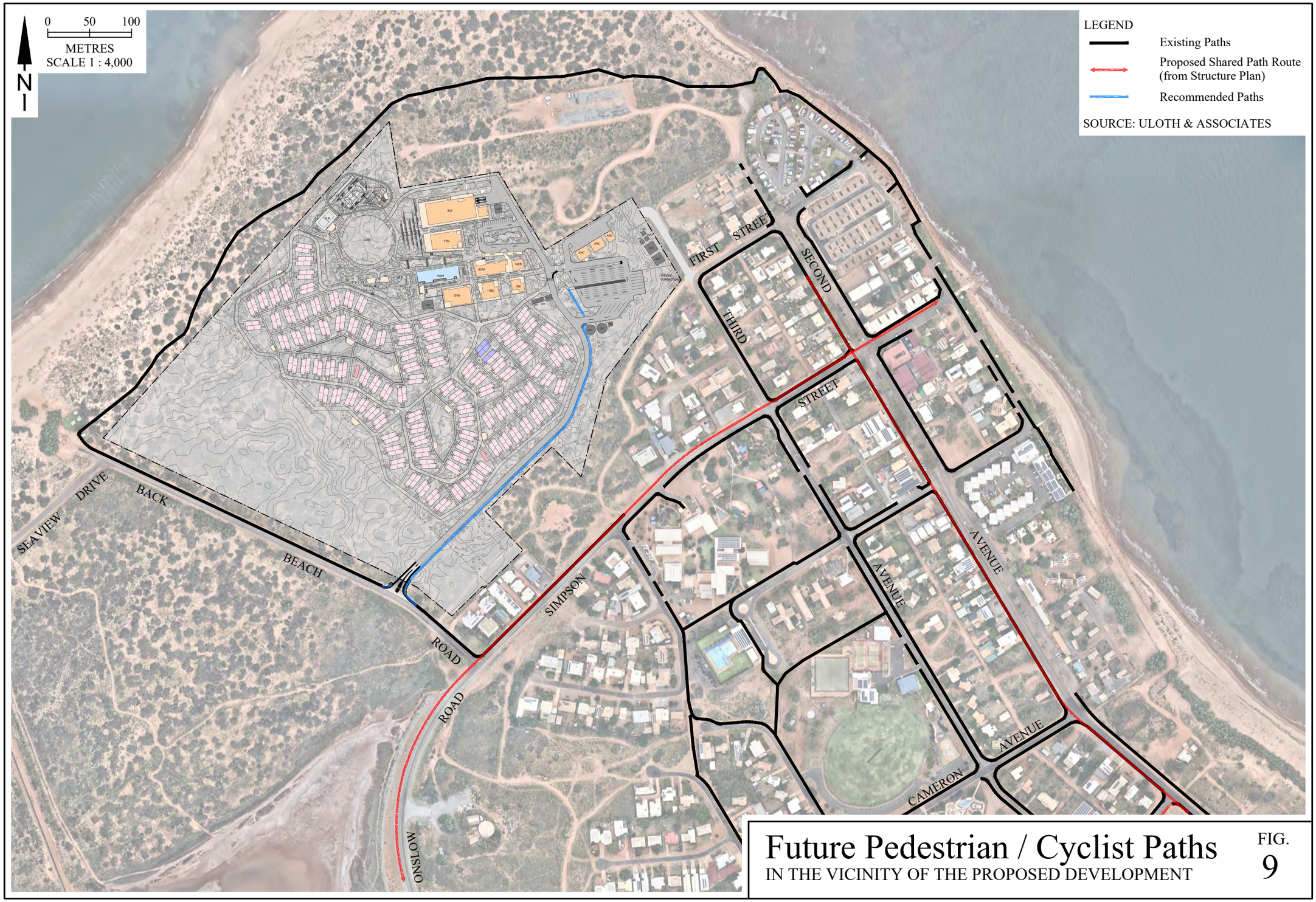
FIG. 7



Proposed Parking Area and Servicing

PROPOSED ONSLOW TOWNSHIP VILLAGE

FIG. 8



Future Pedestrian / Cyclist Paths
IN THE VICINITY OF THE PROPOSED DEVELOPMENT

FIG. 9