

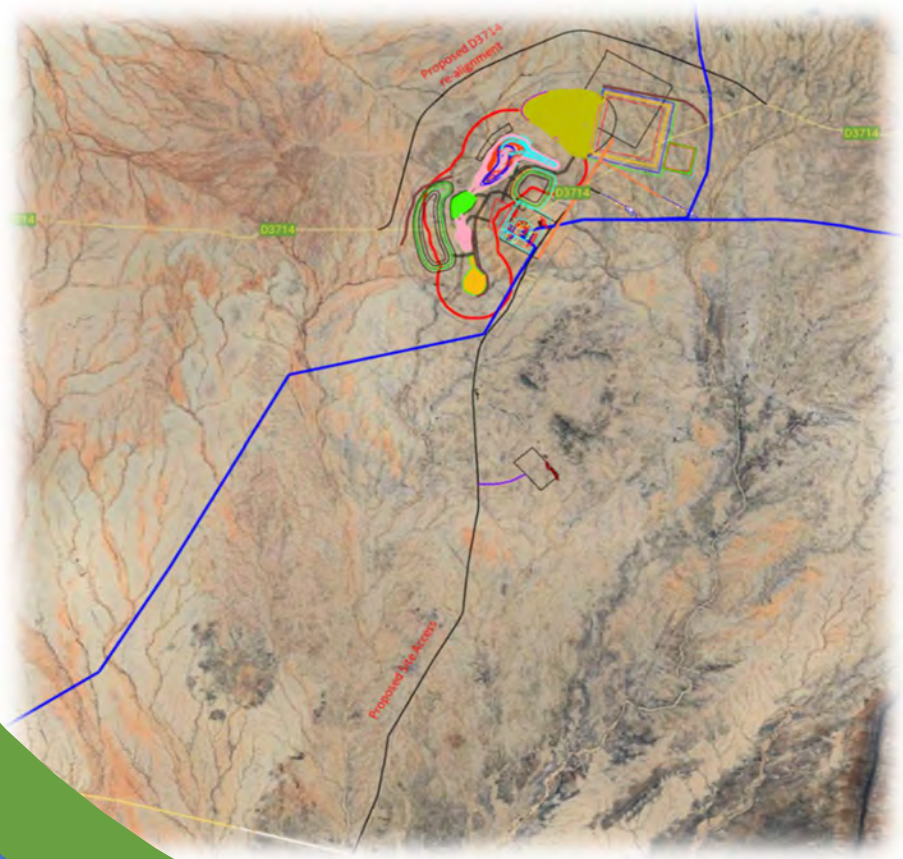
Transport Impact Assessment (TIA)

WIA Gold Mine Kokoseb

Namibia

*Date - **October 2025***

*Report Status – **THIRD DRAFT***



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SUMMARY SHEET

Report Type	Transport Impact Assessment (TIA)
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Location	Namibia
Client	Environmental Compliance Consultancy (ECC)
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It is herewith certified that this Transport Impact Assessment has been prepared according to requirements of the South African Traffic Impact and Site Traffic Assessment Manual.

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REPORT - SUMMARY TABLE

This transport impact assessment is reported only in a summary table instead of a lengthy report to assist review and interpretation of the results. This summary table includes all the relevant information that is normally contained in a report. It should be sufficient for review and interpretation of the expected transport impacts as well as the comprehension of the required measures to mitigate the transport impact. If any more detail is required, please contact the authors.

ANNEXURES

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ABBREVIATIONS

AMG	Access Management Guidelines
COTO	Committee of Transport Officials
EPL	Exclusive Prospecting Licences
HCM	Highway Capacity Manual
LOS	Level of Service
TIA	Transport Impact Assessment
V/C	Volume to Capacity Ratio
WCG	Western Cape Government

<i>Transport Impact Assessment (TIA)</i> WIA Gold Mine Kokoseb, Namibia	
1 Purpose of Study	This report summarises an investigation of the transport-related impacts expected as part of the proposed Kokoseb Gold Mine Project, during both the construction and operational phases. The purpose of the assessment is to identify constraints within the road network and recommend appropriate mitigation measures.
2 Locality	The Kokoseb Gold Mine Project is located on EPL 4818, which is situated approximately 15km north of Okombahe and 30km east of Uis in the Erongo Region of Namibia. The EPL falls within the Okombahe Reserve, with the southwestern portion of the EPL falling within the Tsiseb Conservancy and the northwestern corner of the EPL bordering the Ohungu Conservancy. The site is bordered by the C36, D3712, and D3714. It should be noted that the D3714 roadway traverses through the footprint of the site and will thus need to be realigned as discussed in Section 17. See Figures A1.1 and A1.2 for a Locality Plan and Figure A2 for a Site Boundary Plan.
3 Land Use & Extent	Existing land use – there are currently a few houses and villages on the EPL where people have small livestock. However, a large portion of the EPL is currently undeveloped. Proposed use/extent – mine for Gold Ore and to process the ore to bars. The extent of the site is approximately 33 667 hectares. Refer to Figure A2 for the proposed Site Boundary Plan.
4 Development	Construction is planned to start in 2027, and it is assumed to be completed in approximately 2 years. The operational phase of the mine is to commence in 2029. The Kokoseb Gold Mine is planned to mine a total of 1 367 500 oz of gold (approximately 43 tonnes) over 11 years. There will be a yearly incline in the amount of gold mined, with the ultimate production of gold occurring in year 5, with 150 856 oz (approximately 5 tonnes). Thereafter, the production will decline until the mine is decommissioned. Domestic and hazardous waste will be transported by the appointed waste manager off-site to a predetermined landfill site. The domestic/hazardous waste disposal trips are expected to be minimal and have therefore been excluded.

	Mineralised waste will remain on site. Therefore, no trips are planned for transporting mineralised waste material. Closure of the mine – around 2040
5 Existing Roads	The major roadways in the site vicinity include: • C36 (M0064) – a Main Road with gravel lanes and a speed limit of 100 km/h. • D3714 – a District Road with gravel lanes and a speed limit of 80km/h. Currently, the D3714 road runs through the site. It is planned to realign this roadway north of the development. This realignment is discussed further in Section 17 of the report. • D3712 – a District Road with gravel lanes and a speed limit of 100km/h. • D2306 – a District Road with gravel lanes and a speed limit of 60km/h. See Figure A3 for the Road Network and Classification of the roadways in the site vicinity. This is in accordance with the Namibian Road Authority Road (NRA) Reference System (NRA, 2023).
6 Study Intersections & Existing Control	The following intersections were evaluated: Int. 1: C36 Road / D2306 Road / D3712 Road: Stop Priority Control Int. 2: D3712 Road/ D3714 Road: Stop Priority Control Int. 3: C36/WIA Gold Mine Access: Future Access Refer to Figure A4 for the existing study intersections, lane configurations and control.
7 Analyses Hours	12-hour traffic counts (06:00 - 19:00) were conducted on Wednesday, 16 July 2025. The following peak hours were identified and analysed: Weekday AM peak hour: 07:15 to 08:15 Weekday PM peak hour: 15:00 to 16:00
8 Scenarios Analysed	Scenario 1: 2025 Existing Traffic Conditions – Based on existing geometry and traffic volumes. See Section 9 for more details. Scenario 2: 2027 Total Traffic conditions – Based on Scenario 1 traffic volumes, <i>PLUS</i> the construction phase trips from the proposed Kokoseb WIA Gold mine. See Section 14 for more details. Scenario 3: 2040 Total Traffic conditions – Based on Scenario 1 traffic volumes, <i>PLUS</i> the operational phase trips from the proposed Kokoseb WIA Gold mine development. See Section 14 for more details.

	Intersection analysis was conducted using Traffic version 8 Software, which is based on the Highway Capacity Manual (HCM).
9 Existing Traffic Operations (Scenario 1)	The 2025 existing traffic volumes are based on counts undertaken during a typical weekday survey. Based on video footage of the surrounding road network, it was observed that there are significantly low vehicular volumes on the study roadway. Capacity analysis results indicate that all intersections operate at an acceptable Level of Service (LOS) A, with very short delays and sufficient spare capacity. Hence, no intersection upgrades are required. See Figure A4 in Annexure A for the Existing Traffic conditions.
10 Site Access	The site access is proposed off the C36 roadway, 17km west of the C36/D3712 intersection. The control at the mine access/C36 intersection will be priority-controlled with stops on the mine access approach. Shoulder Sight Distance (SSD): The current speed limit along the C36 roadway is 100km/h, and the road width is 7m. According to the Council for Scientific and Industrial Research (CSIR), Guidelines for the Geometric Design of Urban Arterial Road, UTG 1 (CSIR, 1986), the required SSD for this operational speed and road width is 200 metres for light vehicles and 290 metres for single-unit trucks. Based on the information provided by the client, the vehicular types that will access the site during the operational phase will predominantly be light vehicles and single-unit trucks. Hence, the SSD for single-unit trucks with a trailer was not evaluated. The available SSD at this proposed access is approximately 250 metres in both the eastbound and westbound directions. The SSD is thus sufficient for light vehicles; however, it is insufficient for single-unit trucks. See Photos 1 & 2 below for the available SSD.  Photo 1: Eastbound view (C36)  Photo 2: Westbound view (C36)

To improve the safety at this proposed access, it is recommended to reduce the speed limit along the C36, at least 1km on either side of the proposed mine access, to 80km/h. There are currently trees and vegetation within the road reserve. During the construction of the proposed access, it is also recommended that the trees and vegetation be removed to ensure that the required SSD is achieved.

The required SSD for an 80 km/h roadway is 160 metres for light vehicles and 230 metres for single-unit trucks. Sufficient SSD will be available with this reduced speed limit (80km/h) along the C36.

Road Signage:

It is recommended to provide intersection ahead warning (W107/W108) in advance of the proposed access. This will improve the safety at the intersection as the signage will warn drivers of the access ahead and make them aware that there might be vehicles travelling slower or even stopped when trying to access or exit the site.

Road Surface:

It was investigated whether the gravel roadway should be tarred to improve the safety of the roadway. However, due to the low number of vehicles along the C36 (<200 vehicles per day), upgrading the roadway is not required. This is according to the Department of Transport, TRH 20 Unsealed Road: Design, Construction and Maintenance (DoT, 2009).

Left- and Right-Turn Warrants:

The Western Cape Government Access Management Guidelines (WCG, 2020) were used to investigate whether a left and/or a right turn lane is warranted for the total traffic scenarios (construction and operation phases). However, due to the significantly low number of vehicles travelling along the C36, as well as those generated by the proposed development, left and right turn lanes are not warranted. Refer to Images 1 and 2 below for the assessments.

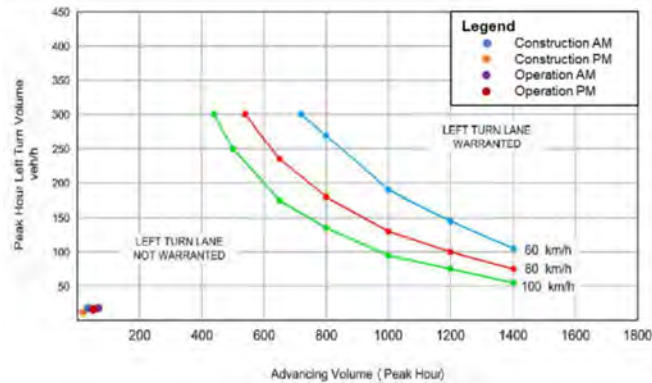


Image 1: Left-turn warrant

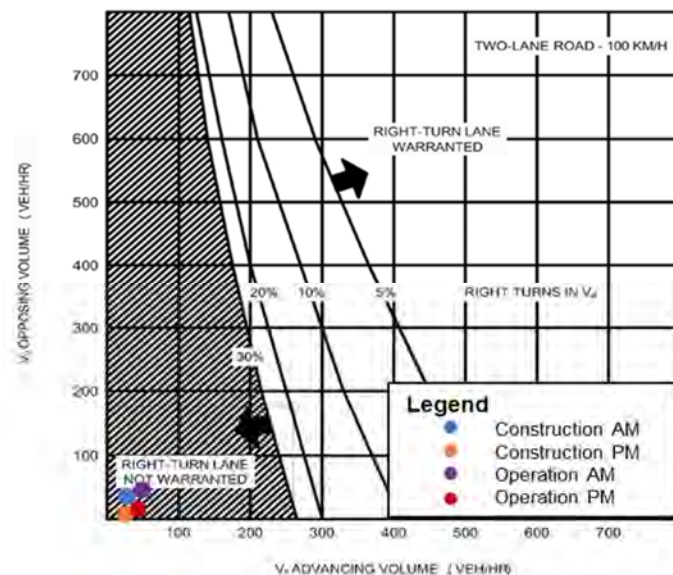


Image 2: Right-turn warrant

11 Trip Generation

No trip generation rates are available in COTO or the ITE manuals for mines, since various factors affect the number of development trips (i.e. size, process and procedures of what is being mined). Given that this development is a gold mine, information relating to the transport of the final product is typically classified. However, it is anticipated that the gold bars will be transported to the airfield in Uis once a week and flown by helicopter to either Walvis Bay International Airport or Hosea Kutako International Airport (Environmental Compliance Consultancy (ECC, 2025). The trips to transport the gold bars will have minimal impact on the road network and were therefore excluded from the calculations. Therefore, no trips for transporting gold bars have been included in the trip generation calculations.

The trip generation assessment for this development is based on person-trips associated with the number of employees working on-site during each phase and shift. Accommodation will be provided on-site. It is therefore assumed that for both the construction and operational phases,

	80% of the employees will reside on-site and 20% will commute to the site via the surrounding road network. Employee demand: Construction Phase: • A peak workforce of approximately 1 200 employees • 20% of employees (±240 staff) will commute to the site via the surrounding road network. Operational Phase: • Approximately 660 employees are estimated to be available on site. • 20% (132 person-trips) are expected to travel to the site via the surrounding road network. • Staff will operate in three 8-hour shifts (50% between 08:00 and 16:00, 40% between 16:00 and 00:00 and 10% between 00:00 and 08:00). The person-trips per shift are based on the Organogram Structure of the mine. Truck development demand: Approximately 27 trucks per week will travel in and out of the site during the construction and operation phases. The fuel and consumables are expected to be transported from Walvis Bay port. The truck trips for the supply of fuel and consumables are as follows: • 6 trucks/week – Mine Diesel Supply • 21 trucks/week – Processing Reagents & Consumables Supply The diesel supply is for the 4 diesel generators that will be used in both phases. The fuel will be stored on site. It is assumed that due to the mine operating every day of the week (i.e. 7 days), there will be 4 trucks/day during both the construction and operational phases. To be conservative, it is assumed that 2 trucks will travel to the proposed mine during the a.m. peak hour and 2 during the p.m. peak hour. The trip generation calculations for the construction and operational phases are summarised in Tables 1, 3, 5 & 7 in Annexure B.
12 Development Trips	Construction Phase: • AM Peak Hour: 52 Total trips (38 In/14 Out) • PM Peak Hour: 52 Total trips (14 In/38 Out)

	Operations Phase: • AM Peak Hour: 26 Total trips (21 In/5 Out) • PM Peak Hour: 37 Total Trips (16 In/21 Out) Refer to Tables 3,4, 6, and 8 in Annexure B for the estimated trips during the construction and operational phases. See Figure A5 and Figure A6 in Annexure A for the estimated development trips during the construction and operational phases, respectively.
13 Trip Distribution	Construction Phase: The trip distribution was determined using the number of households and population of the surrounding towns (Okohambe, Uis, Omaruru), as well as the distances between the towns and the development. The population and household data were obtained from the Namibia 2023 Census and the Erongo Region land use database (accessed August 2025). The following trip distribution was determined and used for the construction phase: • 50% of trips to/from Okohambe • 30% of trips to/from Uis • 20% of trips to/from Omaruru Operation Phase: The Census data and the trips from the Organogram Structure were used to determine the following trip distribution for the operation phase: • 50% of trips to/from Omaruru along C36 • 50% of trips to/from Uis along C36 See Figure A5 and Figure A6 in Annexure A for the distribution of trips.
14 Total Traffic Operations (Construction Phase – Scenario 2)	The 2027 total traffic volumes were calculated by adding the Kokoseb mine construction phase development trips to the 2025 existing traffic volumes that were escalated by 3% per year over the 2 years. The geometry used in this scenario is based on the existing geometry and control. The proposed new site access along the C36 is analysed as a priority-controlled intersection as discussed in Section 11. Based on the capacity analysis results, the intersections would continue to operate at acceptable LOS A, with short delays and sufficient capacity. Hence, no upgrades are required from a capacity analysis point of view. See Figure A7 in Annexure A for the total traffic conditions for the construction phase.

15 Total Traffic Operations (Operational Phase – Scenario 3)	The 2040 total traffic volumes were calculated by adding the operational development trips to the 2025 existing traffic volumes. The 2025 existing traffic volumes were escalated by 3% per year up until 2040 (accounting for the construction phase and the design life of the mine – 15 years). The geometry used in this scenario is based on the existing geometry and control. The proposed new site access along the C36 is analysed as a priority-controlled intersection as discussed in Section 10. Based on the capacity analysis results, the intersections are expected to continue to operate acceptably with a LOS A, with short delays and sufficient capacity. Hence, no upgrades are proposed from a capacity analysis point of view. See Figure A8 in Annexure A for the Total Traffic conditions for the operation phase.
16 Realignment D3714	The current road alignment crosses the proposed mine site. Therefore, as part of the proposed mine development, it is proposed to realign the D3714. The plan is to realign the roadway north of the development. The horizontal alignment of a curve is designed according to the design speed, which is a geometric safety factor rather than the posted speed limit. Although the posted speed limit on the D3714 is 80km/h, a higher design speed is applied to ensure that the road geometry safely accommodates the driver behaviour, as rural road environments have low traffic volumes that often encourage higher travel speeds. Therefore, the design speed of the D3714 road is 100 km/h. Also, it should be noted that the posted speed of 80km/h will remain unchanged. The minimum radius of the horizontal curvature at the 100km/h design speed should be 350 metres. This is according to the DoT TRH17 Geometric Design of Rural Roads (DoT, 1988). The measured radii of the western horizontal curve of the proposed realigned roadway are 300 metres. It is recommended that the radii be increased to 350 metres, from a transport safety point of view. Assuming the existing D3714 road will be used as an internal roadway. The existing D3714 can be converted to secondary access to the site. As part of the design of the realigned D3714, it must be ensured that sufficient SSD is provided from the secondary access. The minimum required SSD for a 100 km/h roadway is: • Passenger car – 200 m • Single unit – 300 m See Image 3 below for the proposed roadway (realignment of D3714).

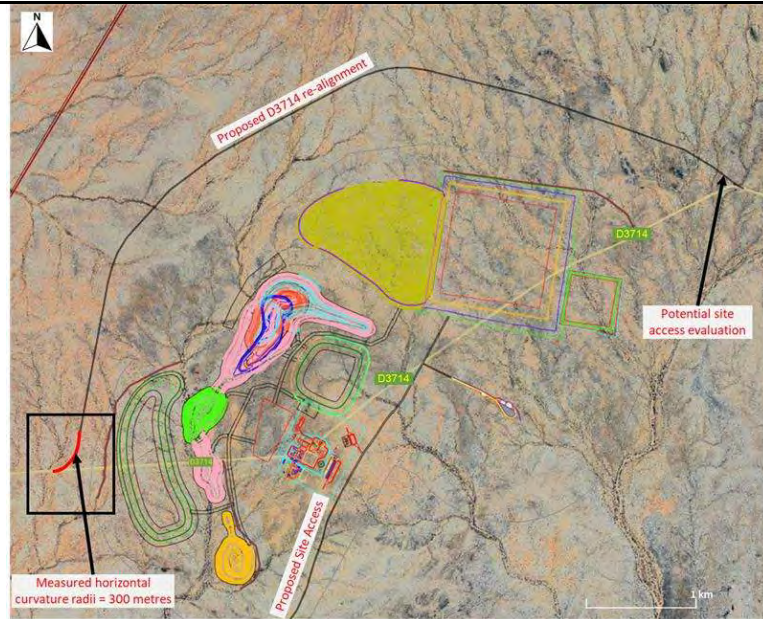


Image 3: Realigned roadway

See Figure A2 in Annexure A for the site boundary plan and the realignment proposal.

17 Surrounding Roads (Site Observation)

The C36, D3712 and D3714 roads were assessed as these routes will be used by the employees during both the construction and operational phases. The B2 and C33 roads were also assessed, as they are the primary routes used by fuel and consumables delivery vehicles. In addition, the C34 and C35 roads were considered as an alternative route for fuel and consumables transport. Even though the alternative route (C34 and C35 roads) is shorter than the main route (B2 and C33 roads), C35 is mostly a gravel road. Unsealed roads require routine maintenance to retain the condition of the road (DoT, 2009).

C36 Road

A gravel road between 2 km west of the C33/C36 intersection and at the C36/D3714 intersection. The speed limit along the road is 100km/h. There is signage along the road which indicates the alignment of the road, the beginning of the gravel road and advance warning signs for bridges and hazard plates (W401 and W402). Refer to Photos C1 – C3 in Annexure C for site observation photos.

It is recommended to reduce the speed limit at least 1 km from the site access to 80 km/h to improve the safety along the roadway.

D3712 Road

A gravel road with a speed limit of 100 km/h and signage present along the roadway. Refer to Photo C4 in Annexure C.

	D3714 Road A gravel road with a speed limit of 80 km/h and signage present along the roadway. See Photos C5 and C6 in Annexure C. B2 Road Mainly a one-lane per direction road with no shoulders between the towns. The roadway is in fair condition. It should be noted that the roadway is typically a dual carriageway with a median and shoulders in Walvis Bay, Uksakos and Swakopmund and a single lane per direction with on-street parking in Karibib. The speed limit lowers to 60 km/h when approaching the towns. See Photos C7 and C8 in Annexure C. C33 Road A single lane per direction with no shoulders on both sides of the road. There is signage present along the roadway. Also, the road is in good condition. Refer to Photos C9 and C10 in Annexure C. C34 Road The roadway is a paved single lane per direction with no shoulders on both sides. The speed limit is 120km/h. Refer to Photo 11 in Annexure C. C35 Road The roadway is a paved single lane per direction with no shoulders on both sides of the road for approximately 35km north of the C34/C35 intersection. The posted speed limit at this paved section = is 120km/h, and there is signage present along the roadway. Thereafter, the C35 is a gravel road with a speed limit of 80km/h till Uis. The paved section of the road is in a good condition. However, the gravel section of the road is in fair condition, as some portions of the road show signs of corrugations. Refer to Photos C12, C13 and C14 in Annexure C.
18 Public Transport	It was assumed that most trips to and from this development will make use of the mine shuttle services (22-seater bus service) and public transport (sedan taxis). Therefore, appropriate infrastructure should be in place along the internal access road. It is recommended that bus embayments be installed along the internal access road. The bus embayments should have a sufficient circulating radius (minimum 15 metres) and shelter. Should there be available electricity in the area, street lighting should be installed in the vicinity of the proposed bus embayments.
19 Conclusion & Recommendations	This report summarises an investigation of the transport impacts expected as part of the Kokoseb Wia gold mine development, in the Erongo region of Namibia. The following can be concluded, based on this investigation:

	• 2025 Existing Traffic: All intersections currently operate acceptably and have sufficient capacity. Hence, no upgrades are proposed. • Trip Generation: This development is expected to generate the following peak-hour trips during the construction and operational phases. ○ Construction Phase: ▪ AM Peak Hour: 52 Total Trips (38 In/14 Out) ▪ PM Peak Hour: 52 Total Trips (14 In/38 Out) ○ Operation Phase: ▪ AM Peak Hour: 26 Total trips (21 In/5 Out) ▪ PM Peak Hour: 37 Total Trips (16 In/21 Out) • 2027 Total Traffic – Construction Phase: All intersections would continue to operate acceptably and would have sufficient capacity. • 2040 Total Traffic – Operation Phase: All intersections would continue to operate acceptably and would have sufficient capacity. • Site Access: Install 80km/h speed limit signs along the C36, at least 1 km on either side of the development access, and clear the vegetation in the sight triangles to ensure that sufficient Shoulder Sight Distances (SSD) is available. • Realignment of D3714: As part of the proposed mine development, it is proposed to realign D3714. The current road alignment goes across the proposed mine site. The proposed realigned D3714 is to the north of the development. ○ It is recommended that the radii of the western horizontal curve be increased to 350 metres, from a safety point of view. ○ Should a secondary access be implemented on the eastern side, where the realignment and the existing D3714 meet, it must be ensured that sufficient SSD is provided from the secondary access. • Public Transport: It is recommended that bus embayments with sufficient circulating radii (minimum 15 metres) and shelter be provided in the internal road access. Based on the findings in this investigation, it is evident that the impact of this development would be minimal on the external road networks. Hence, it is recommended that the Kokoseb WIA gold mine development be considered for approval from a transport point of view, provided that the upgrades recommended in this report are in place.
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REFERENCES

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10. Osino Resources, Sustainability Report, 2023
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Annexure A

Figures

LIST OF FIGURES

Figure A1.1: Locality Plan Wider Area View

Figure A1.2: Locality Plan Zoomed-in View

Figure A2: Site Boundary Plan

Figure A3: Surrounding Road Network – Road Hierarchy

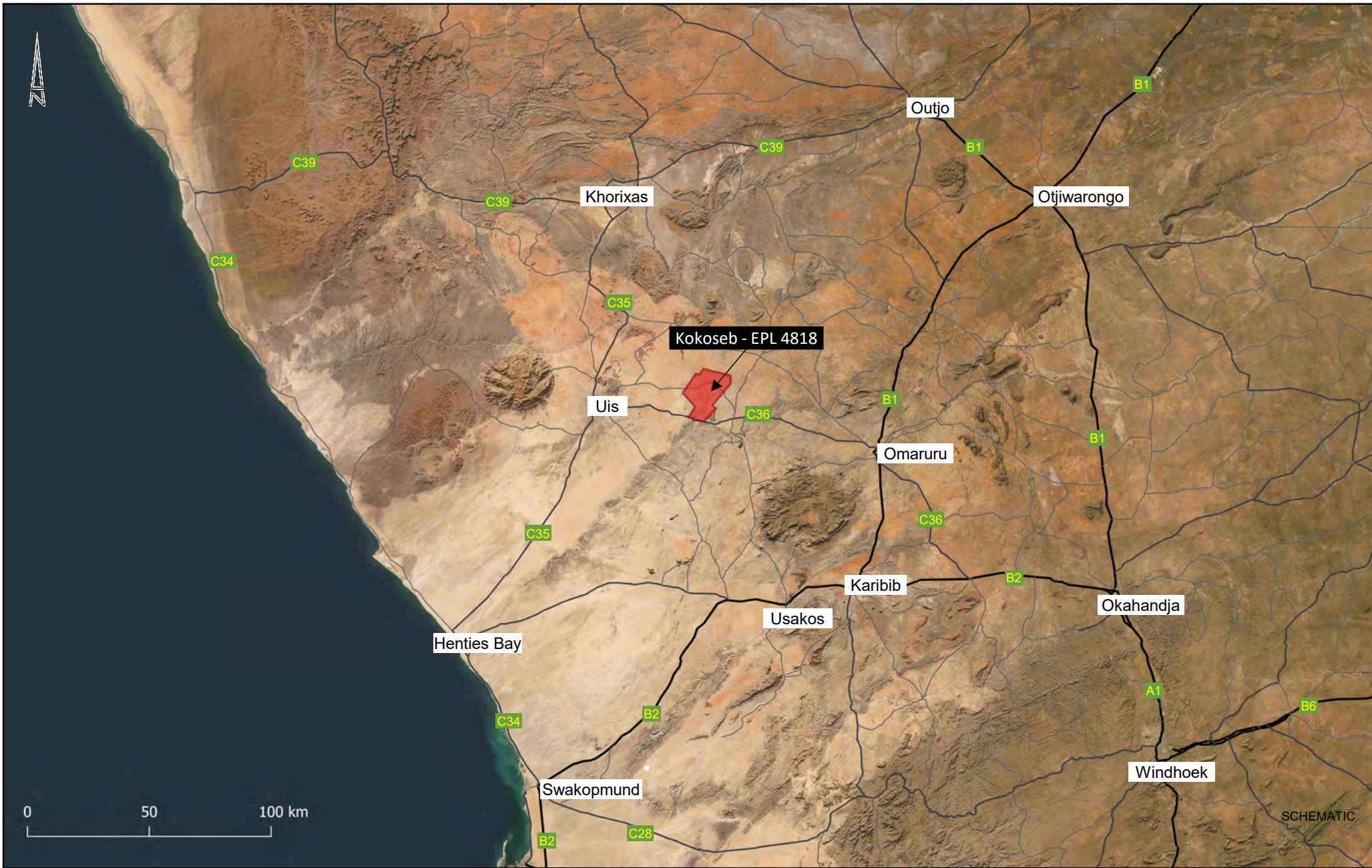
Figure A4: 2025 Existing Traffic, Peak Hour Turning Movements & Operations

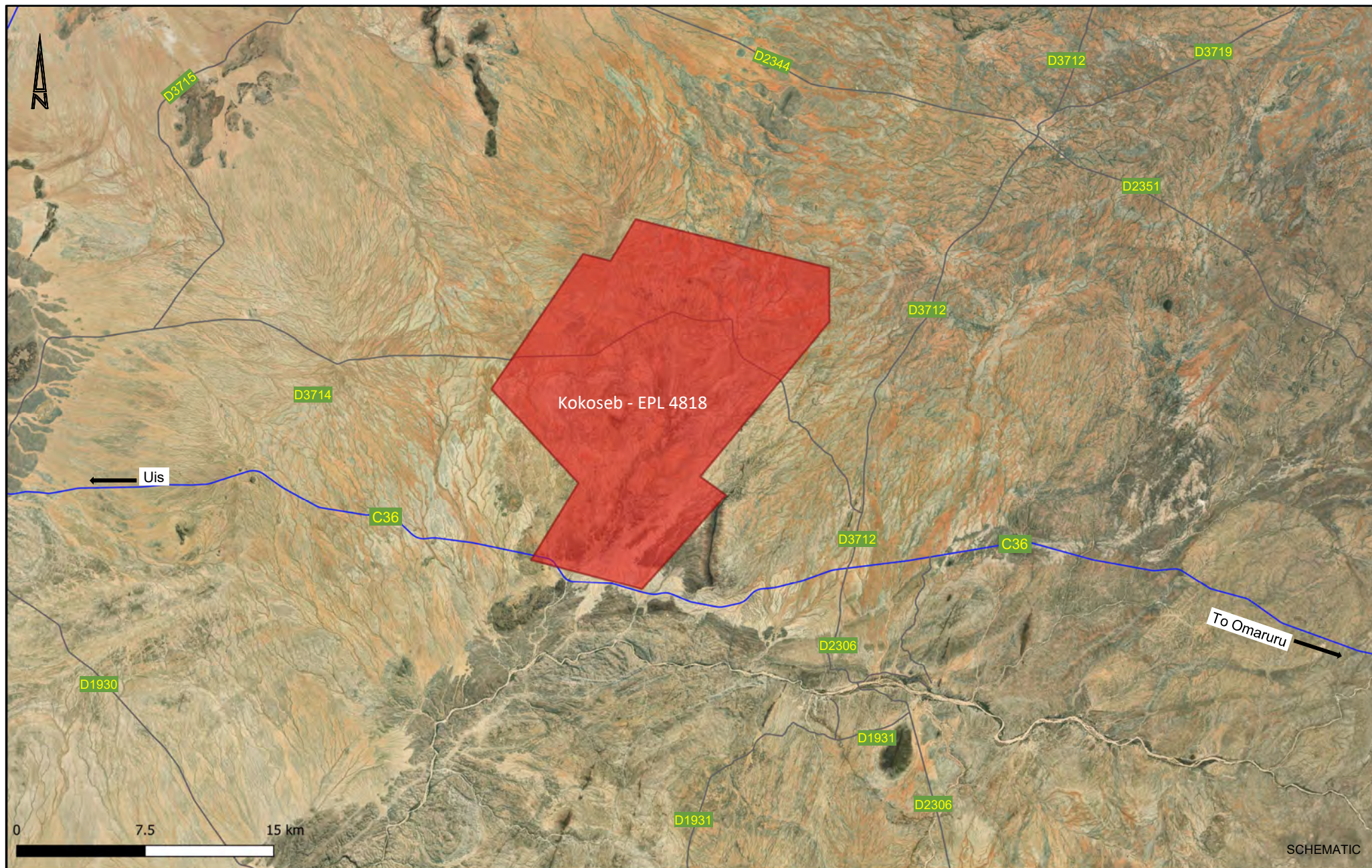
Figure A5: 2027 Total Traffic – Construction Phase, Added Volumes

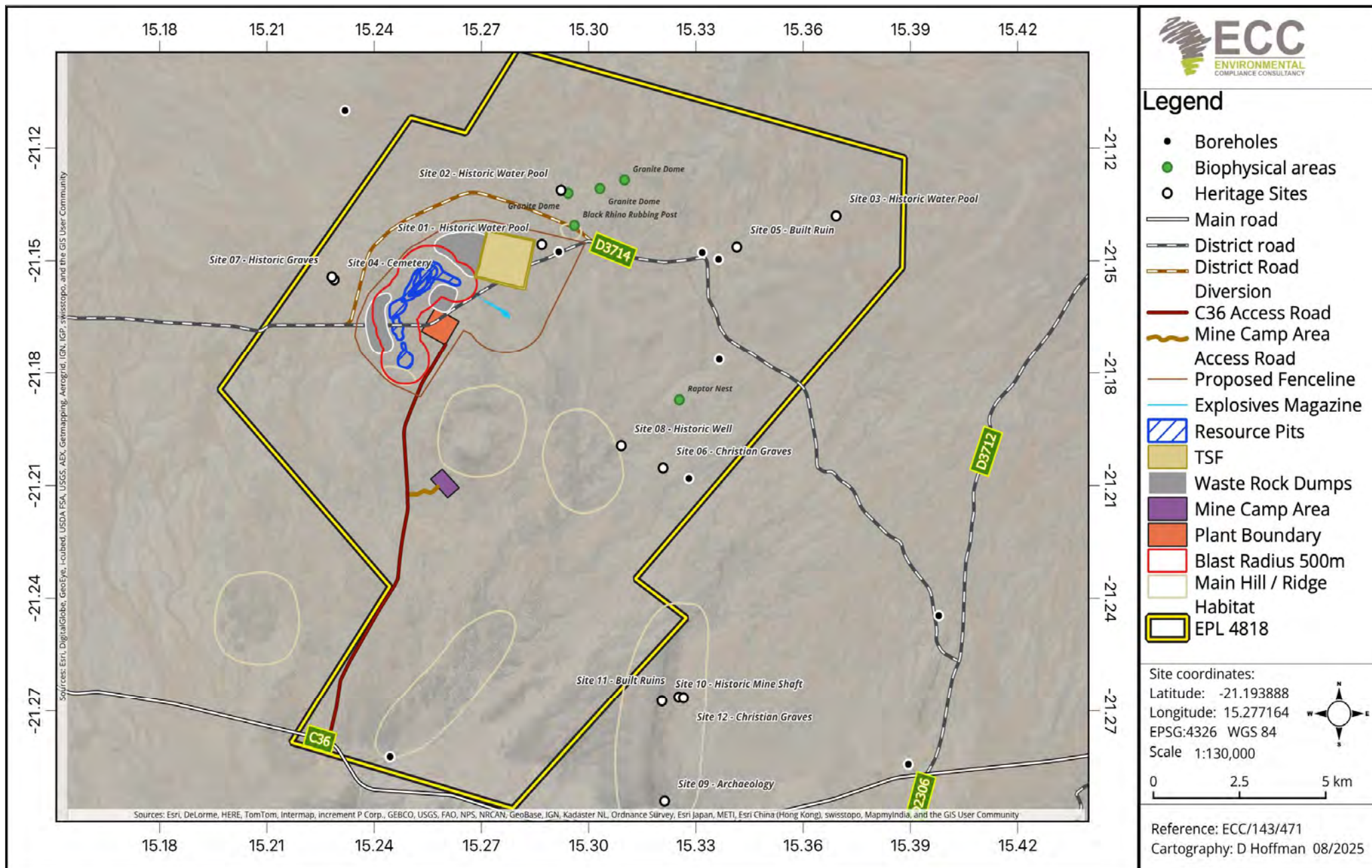
Figure A6: 2040 Total Traffic – Operation Phase, Added Volumes

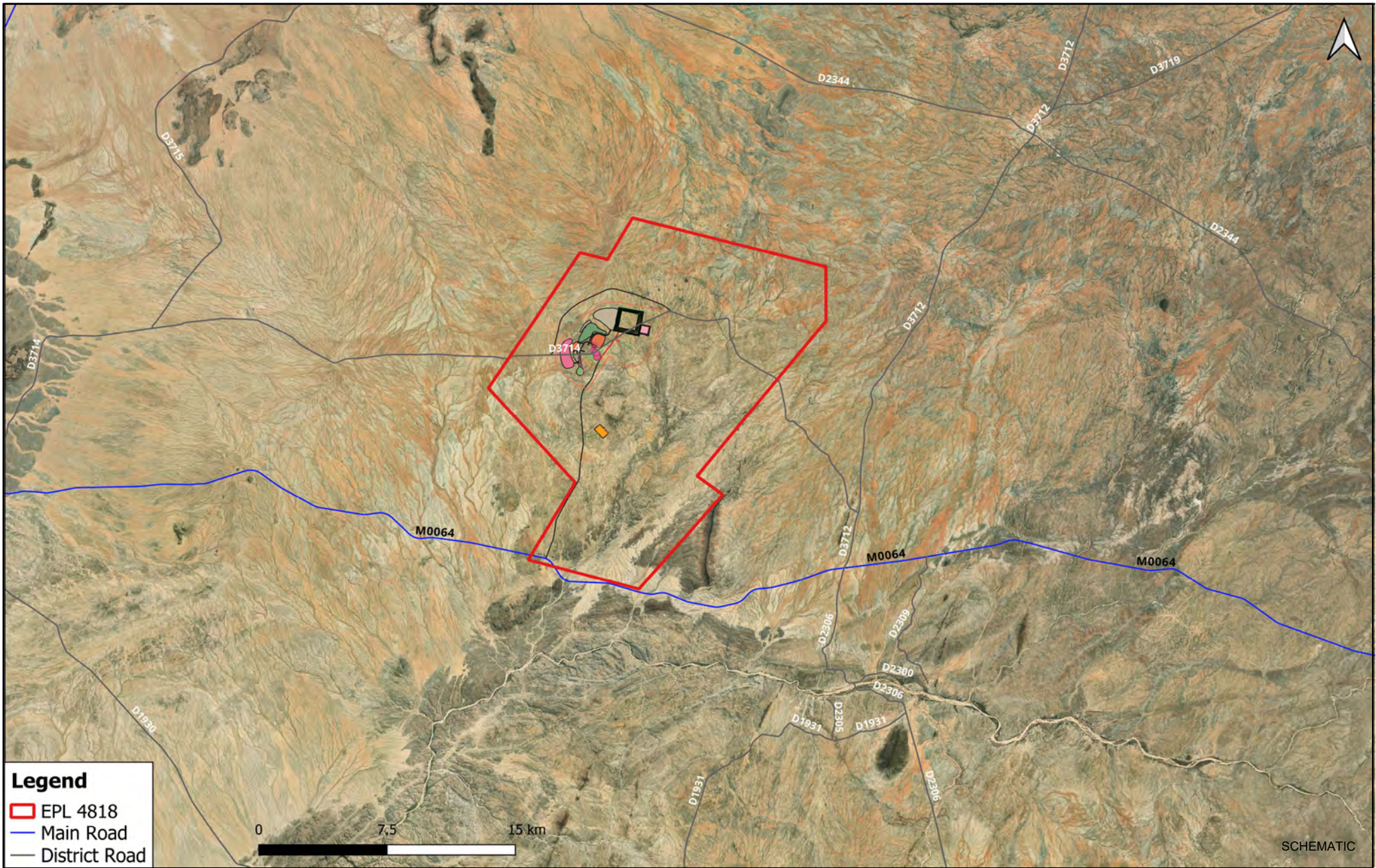
Figure A7: 2027 2029 Total Traffic – Construction Phase, Peak Hour Turning Movements & Operations

Figure A8: 2040 Total Traffic – Operation Phase, Peak Hour Turning Movements & Operations

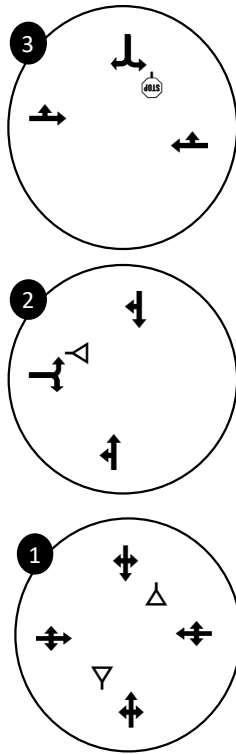




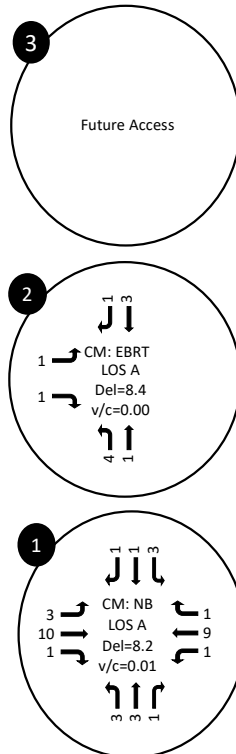




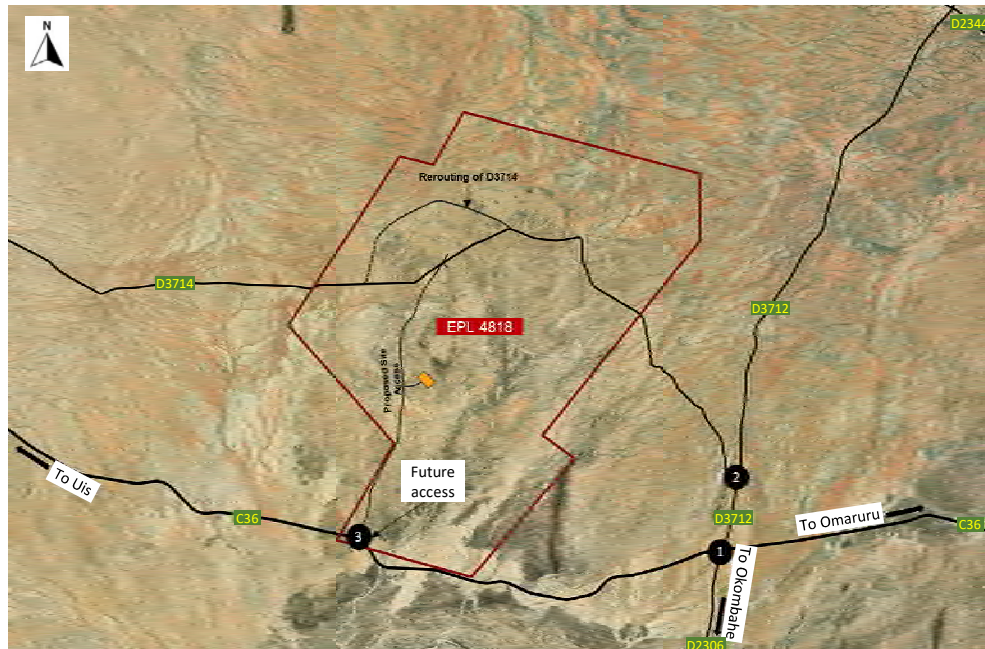
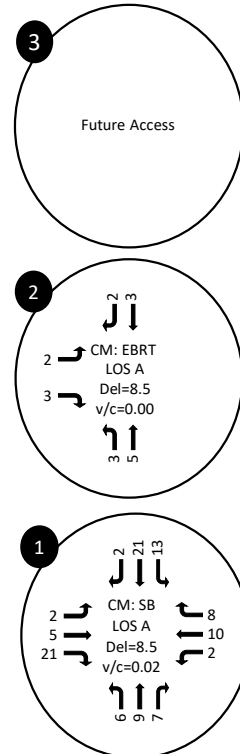
Existing Lane Configurations and Controls



AM Peak Hour



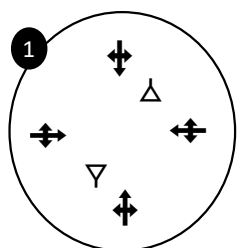
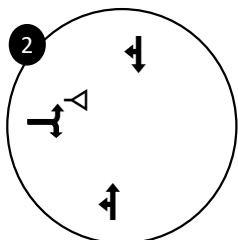
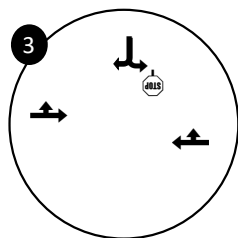
PM Peak Hour



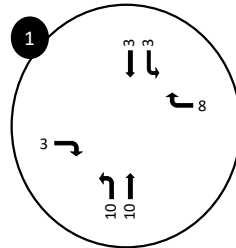
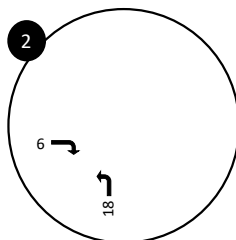
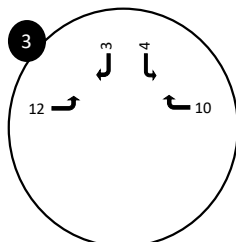
CM : Critical Movement
 LOS: Level of Service of intersection if Signal or 4-way Stop or of Critical movement if unsignalised
 DEL: Avg Delay per vehicle if signalised or for critical movement if unsignalised
 V/C: Critical V/C Ratio
 Left Turn Arrow: Turning movements
 Right Turn Arrow: Free Flow Left Turn
 Red Arrow: Critical Movement
 Green Arrow: Overlap Left Turn

Diagrammatic / Not to Scale

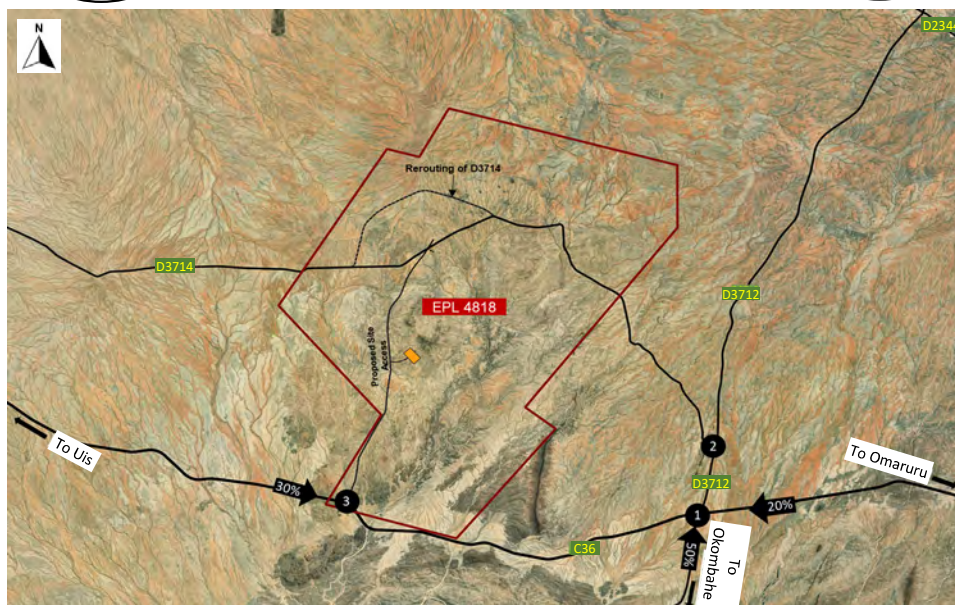
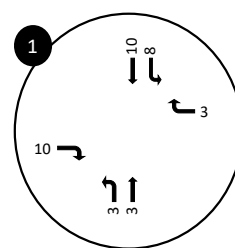
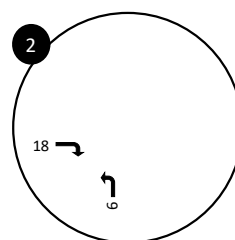
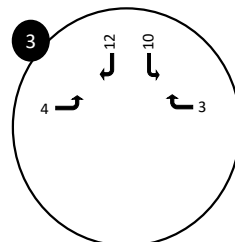
Existing Lane Configurations and Controls



AM Peak Hour



PM Peak Hour

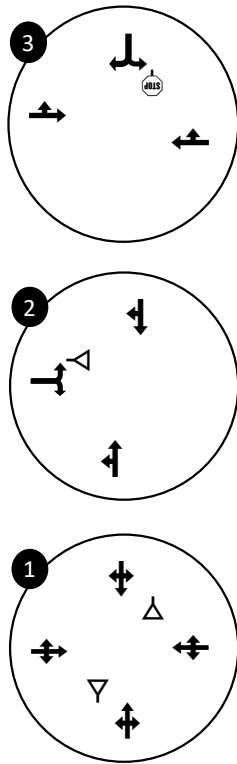


CM : Critical Movement
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 Critical Movement
 Overlap Left Turn

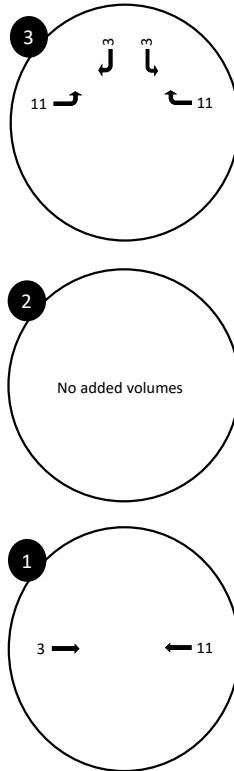
PEAK HOUR	AM PEAK	PM PEAK
IN	38	14
OUT	14	38
TOTAL	52	52

Diagrammatic / Not to Scale

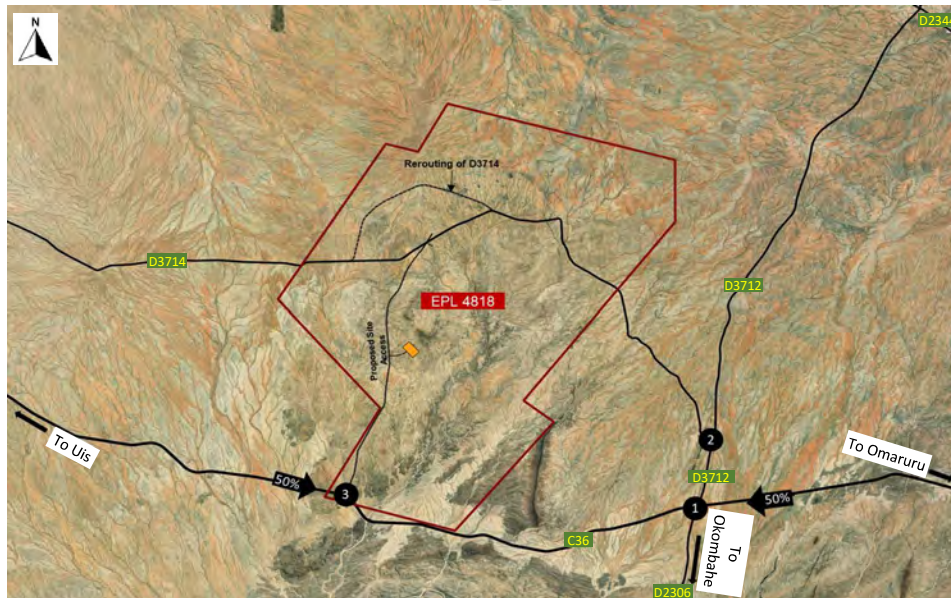
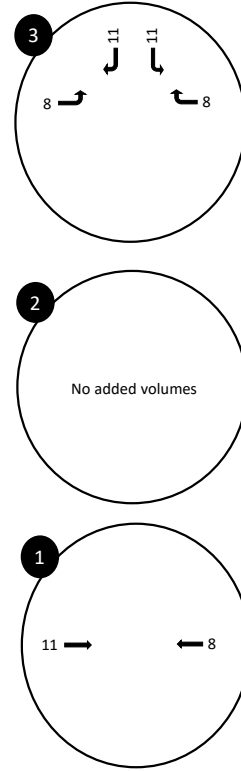
Existing Lane Configurations and Controls



AM Peak Hour



PM Peak Hour

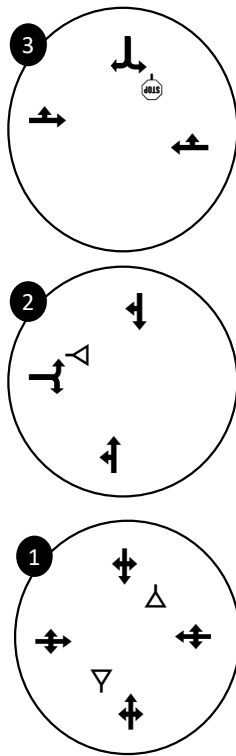


CM : Critical Movement
 LOS: Level of Service of intersection if Signal or 4-way Stop or of Critical movement if unsignalised
 DEL: Avg Delay per vehicle if signalised or for critical movement if unsignalised
 V/C: Critical V/C Ratio
 Turning movements
 Free Flow Left Turn
 Critical Movement
 Overlap Left Turn

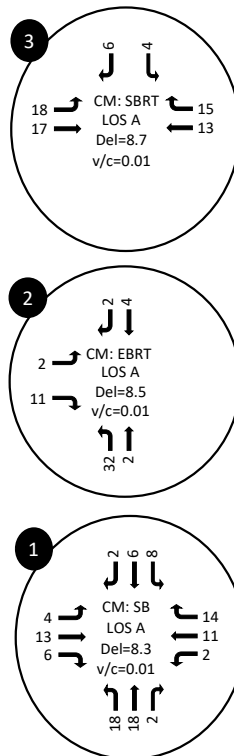
PEAK HOUR	AM PEAK	PM PEAK
IN	21	16
OUT	5	21
TOTAL	26	37

Diagrammatic / Not to Scale

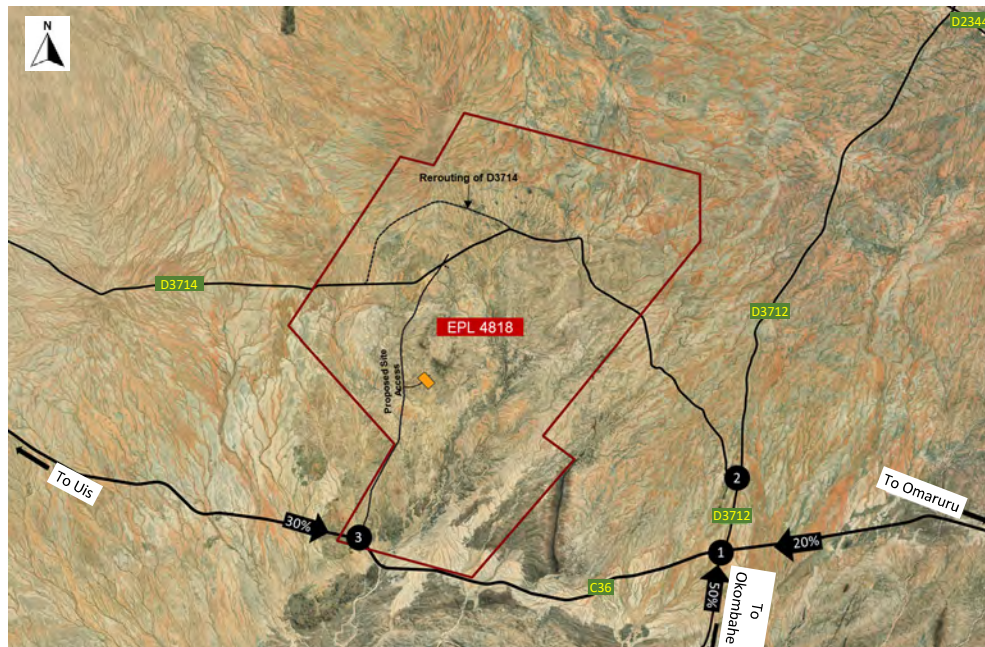
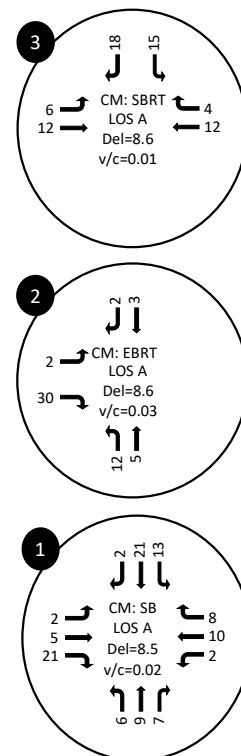
Existing Lane Configurations and Controls



AM Peak Hour



PM Peak Hour

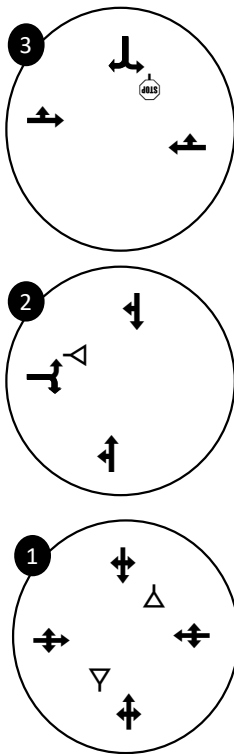


CM : Critical Movement
 LOS: Level of Service of intersection if Signal or 4-way Stop or of Critical movement if unsignalised
 DEL: Avg Delay per vehicle if signalised or for critical movement if unsignalised
 V/C: Critical V/C Ratio
 Turning movements
 Free Flow Left Turn
 Critical Movement
 Overlap Left Turn

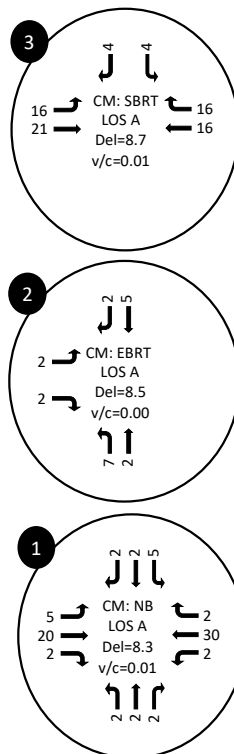
Note: The 2027 Total Traffic volumes are escalated with a 3% growth rate per year

Diagrammatic / Not to Scale

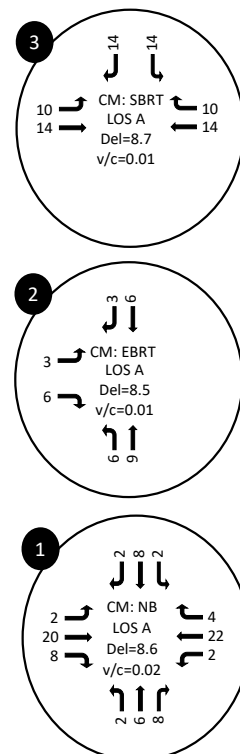
Existing Lane Configurations and Controls



AM Peak Hour



PM Peak Hour



CM : Critical Movement
 LOS: Level of Service of intersection if Signal or 4-way Stop or of Critical movement if unsignalised
 DEL: Avg Delay per vehicle if signalised or for critical movement if unsignalised
 V/C: Critical V/C Ratio
 Turning movements
 Free Flow Left Turn
 Critical Movement
 Overlap Left Turn

Note: The 2027 Total Traffic volumes are escalated with a 3% growth rate per year

Diagrammatic / Not to Scale

Annexure B

Tables

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Table 5: Person Trip Generation: Operation Phase - AM Peak Hour..... 3

Table 6: AM Peak Hour Development Trips Summary for Operations Phase 3

Table 7: Person Trip Generation: Operation Phase - PM Peak Hour..... 4

Table 8: PM Peak Hour Development Trips Summary for Operations Phase..... 4

Table 1: Person Trip Generation: Construction Phase - AM Peak Hour

PROPOSED DEVELOPMENTS	
Size of Development	33 667 hectares
Landuse	Gold Mine
Total no. of employees	1200
PERSON TRIP GENERATION RATES	
Person/worker trip generation rate per household	1
DEMAND DURING PEAK HOUR	
Person Trips off-site (external)	20%
Persons living on-site	80%
Demand	240
PRIMARY MODAL SPLIT (PUBLIC TRANSPORT, INCLUDING WALKING, VS PRIVATE TRANSPORT)	
Modal split (public transport share, including walking)	80%
Number of public transport passengers and pedestrians	192
SECONDARY MODAL SPLIT	
Public transport modal split (assumed)	
Rail	0%
Bus	80%
Taxi	20%
Walking (only mode)	0%
No of people using public transport	
Rail	0
Bus	154
Taxi	38
Walking	0
Private Motor Vehicles	48
NUMBER OF PUBLIC TRANSPORT VEHICLES	
No of pedestrians	0
TAXI TRIPS	
Taxi capacity (pax)	4
% of taxi trips In	75%
% of taxi trips Out	25%
No of taxi pax In	29
No of taxi pax Out	10
Total no. of taxi trips in	8
Total no. of taxi trips out	3
BUS TRIPS	
Bus capacity (pax)	22
% of bus trips In	75%
% of bus trips Out	25%
No of bus pax In	115
No of bus pax Out	38
Total no. of bus trips in	5
Total no. of bus trips out	2
PRIVATE VEHICLE TRIPS	
Private vehicle capacity (pax)	1,5
% of Private Vehicle trips In	75%
% of Private Vehicle trips Out	25%
No. of Private Vehicle pax In	36
No. of Private Vehicle pax Out	12
Total no. of private vehicle trips in	24
Total no of private vehicle trips out	8

Table 2: AM Peak Hour Development Trips Summary for Construction Phase

Transport Mode	AM PEAK HOUR TRIPS		
	In	Out	Total
Taxis	8	3	11
Buses	5	2	7
Private vehicles	24	8	32
Trucks	1	1	2
TOTAL	38	14	52

Table 3: Person Trip Generation: Construction Phase - PM Peak Hour

PROPOSED DEVELOPMENTS	
Size of Development	33 667 hectares
Landuse	Gold Mine
Total no. of employees	1200
PERSON TRIP GENERATION RATES	
Person/worker trip generation rate per household	1
DEMAND DURING PEAK HOUR	
Person Trips off-site (external)	20%
Persons living on-site	80%
Demand	240
PRIMARY MODAL SPLIT (PUBLIC TRANSPORT, INCLUDING WALKING, VS PRIVATE TRANSPORT)	
Modal split (public transport share, including walking)	80%
Number of public transport passengers and pedestrians	192
SECONDARY MODAL SPLIT	
Public transport modal split (assumed)	
Rail	0%
Bus	80%
Taxi	20%
Walking (only mode)	0%
No of people using public transport	
Rail	0
Bus	154
Taxi	38
Walking	0
Private Motor Vehicles	48
NUMBER OF PUBLIC TRANSPORT VEHICLES	
No of pedestrians	0
TAXI TRIPS	
Taxi capacity (pax)	4
% of taxi trips In	25%
% of taxi trips Out	75%
No of taxi pax In	10
No of taxi pax Out	29
Total no. of taxi trips in	3
Total no. of taxi trips out	8
BUS TRIPS	
Bus capacity (pax)	22
% of bus trips In	25%
% of bus trips Out	75%
No of bus pax In	38
No of bus pax Out	115
Total no. of bus trips in	2
Total no. of bus trips out	5
PRIVATE VEHICLE TRIPS	
Private vehicle capacity (pax)	1,5
% of Private Vehicle trips In	25%
% of Private Vehicle trips Out	75%
No. of Private Vehicle pax In	12
No. of Private Vehicle pax Out	36
Total no. of private vehicle trips in	8
Total no of private vehicle trips out	24

Table 4: PM Peak Hour Development Trips Summary for Construction Phase

Transport Mode	PM PEAK HOUR TRIPS		
	In	Out	Total
Taxis	3	8	11
Buses	2	5	7
Private vehicles	8	24	32
Trucks	1	1	2
TOTAL	14	38	52

Table 5: Person Trip Generation: Operation Phase - AM Peak Hour

PROPOSED DEVELOPMENT	
Phase	Ultimate Phase
Size of development	33 667 hectares
Shift	Day Shift
Landuse	Gold Mine
Number of employees	660
Percentage employees during day shift	60%
Number of day shift employees (08:00-16:00)	396
PERSON TRIP GENERATION RATES	
DEMAND DURING PEAK HOUR	
Person Trips off-site (External)	20%
Persons living on-site	80%
Demand	79
ESTIMATE OF PRIMARY MODAL SPLIT (PUBLIC TRANSPORT, INCLUDING WALKING, VS PRIVATE TRANSPORT)	
Modal split (public transport share, including walkin	70%
Number of public transport passengers and pedest	55
SECONDARY MODAL SPLIT	
Public transport modal split (assumed)	
Rail	0%
Bus	60%
Taxi	40%
Walking (only mode)	0%
No of people using public transport	
Rail	0
Bus	33
Taxi	22
Walking	0
Private Motor Vehicles	24
DEVELOPMENT MODAL SPLIT PER SHIFT	
No. of pedestrians	0
TAXI TRIPS	
Shift	Day Shift
Taxi capacity (pax)	4,0
% of taxi trips In	86%
% of taxi trips Out	14%
No of taxi pax In	19
No of taxi pax Out	3
Total no. of taxi trips in	5
Total no. of taxi trips out	1
BUS TRIPS	
Shift	Day Shift
Bus capacity (pax)	22
% of bus trips In	86%
% of bus trips Out	14%
No of bus pax In	29
No of bus pax Out	5
Total no. of bus trips in	1
Total no. of bus trips out	1
PRIVATE VEHICLE TRIPS	
Shift	Day Shift
Private vehicle capacity (pax)	1,5
% of Private Vehicle trips In	86%
% of Private Vehicle trips Out	14%
No. of Private Vehicle pax In	20
No. of Private Vehicle pax Out	3
Total no. of private vehicle trips in	14
Total no of private vehicle trips out	2

Table 6: AM Peak Hour Development Trips Summary for Operations Phase

Transport Modal Split	AM PEAK		
	In	Out	Total
Taxis	5	1	6
Buses	1	1	2
Private Vehicles	14	2	16
Trucks	1	1	2
AM Peak Hour Total Trips	21	5	26

Table 7: Person Trip Generation: Operation Phase - PM Peak Hour

PROPOSED DEVELOPMENT	
Phase	Ultimate Phase
Size of development	33 667 hectares
Shift	Day Shift
Landuse	Gold Mine
Number of employees	660
Percentage employees during day shift	90%
Number of day shift employees (16:00-00:00)	594
PERSON TRIP GENERATION RATES	
DEMAND DURING PEAK HOUR	
Person Trips off-site (External)	20%
Persons living on-site	80%
Demand	119
ESTIMATE OF PRIMARY MODAL SPLIT (PUBLIC TRANSPORT, INCLUDING WALKING, VS PRIVATE TRANSPORT)	
Modal split (public transport share, including walkin	70%
Number of public transport passengers and pedesti	83
SECONDARY MODAL SPLIT	
Public transport modal split (assumed)	
Rail	0%
Bus	60%
Taxi	40%
Walking (only mode)	0%
No of people using public transport	
Rail	0
Bus	50
Taxi	33
Walking	0
Private Motor Vehicles	36
DEVELOPMENT MODAL SPLIT PER SHIFT	
No. of pedestrians	0
TAXI TRIPS	
Shift	Day Shift
Taxi capacity (pax)	4,0
% of taxi trips In	43%
% of taxi trips Out	57%
No of taxi pax In	14
No of taxi pax Out	19
Total no. of taxi trips in	4
Total no. of taxi trips out	5
BUS TRIPS	
Shift	Day Shift
Bus capacity (pax)	22
% of bus trips In	43%
% of bus trips Out	57%
No of bus pax In	21
No of bus pax Out	29
Total no. of bus trips in	1
Total no. of bus trips out	1
PRIVATE VEHICLE TRIPS	
Shift	Day Shift
Private vehicle capacity (pax)	1,5
% of Private Vehicle trips In	43%
% of Private Vehicle trips Out	57%
No. of Private Vehicle pax In	15
No. of Private Vehicle pax Out	20
Total no. of private ceheicle trips in	10
Total no of private vehicle trips out	14

Table 8: PM Peak Hour Development Trips Summary for Operations Phase

Transport Modal Split	PM PEAK		
	In	Out	Total
Taxis	4	5	9
Buses	1	1	2
Private Vehicles	10	14	24
Trucks	1	1	2
PM Peak Hour Total Trips	16	21	37

Annexure C

Site Observations

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Photo C1: Posted speed limit along the C36 Road. Westbound View



Photo C2: Cross-section of the C36 Road 2km west of the C33/C36 intersection. Westbound View



Photo C3: Cross-section of C36 Road at the C36/D3714 intersection. Eastbound View

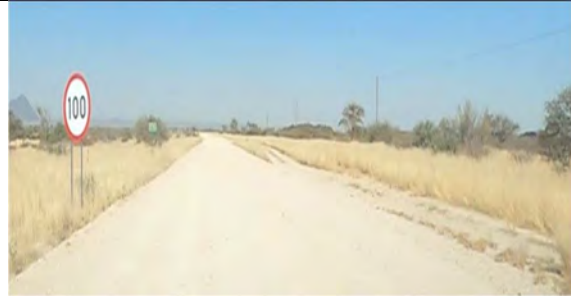


Photo C4: Posted speed limit and cross-section of the D3712 Road. Northbound View



Photo C5: Posted speed limit along the D3714 Road. Westbound View



Photo C6: Cross-section of the D3714 Road. Westbound View



Photo C7: Cross-section of the B2 Road.
Southbound View



Photo C8: Cross-section of the B2 Road.
Northbound View



Photo C9: Cross-section of the C33 Road.
Southbound View



Photo C10: Cross-section of the C33 Road.
Northbound view



Photo C11: Cross-section of the C34
Road. Northbound view

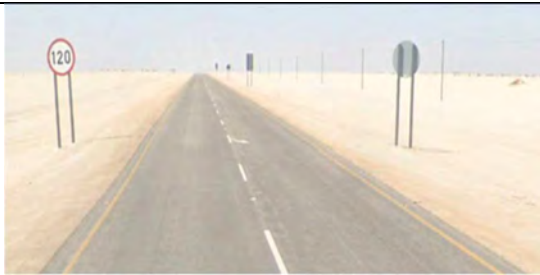


Photo C12: Posted speed limit of the paved
section of the C35 Road. Northbound view

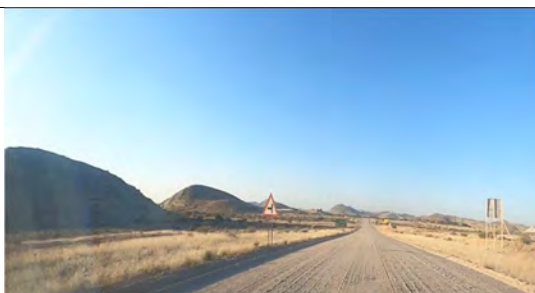


Photo C13: Cross-section of the gravel section
of the C35. Northbound view



Photo C14: Posted speed limit of the gravel
section of the C35. Southbound view