

TRAFFIC IMPACT ASSESSMENT

**Mayo Private Hospital
2 Potoroo Dr, Taree NSW 2430**

Prepared for:

Healthe Care Australia
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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Healthe Care Australia (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
631.30566-R01-v1.2	6 July 2022	Rhiannon Pace / Taylor Beauchamp	Anthony Kay	Kris Stone
631.30566-R01-v1.0	5 April 2022	Rhiannon Pace / Taylor Beauchamp	Anthony Kay	Kris Stone

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1 Introduction

Health Care Australia have engaged SLR Consulting Australia Pty Ltd (SLR) to undertake a Traffic Impact Assessment (TIA) for the proposed Mental Health Facility development and works to the Rehabilitation Ward at the Mayo Private Hospital. The Private Hospital is located at 2 Potoroo Drive, Taree in New South Wales.

The Mental Health Facility and proposed works to the Rehabilitation Ward will result in an increase of 44 beds across the site. This TIA has been prepared to document a traffic assessment and provide advice in relation to the traffic engineering aspects of the development proposed.

2 Existing Conditions

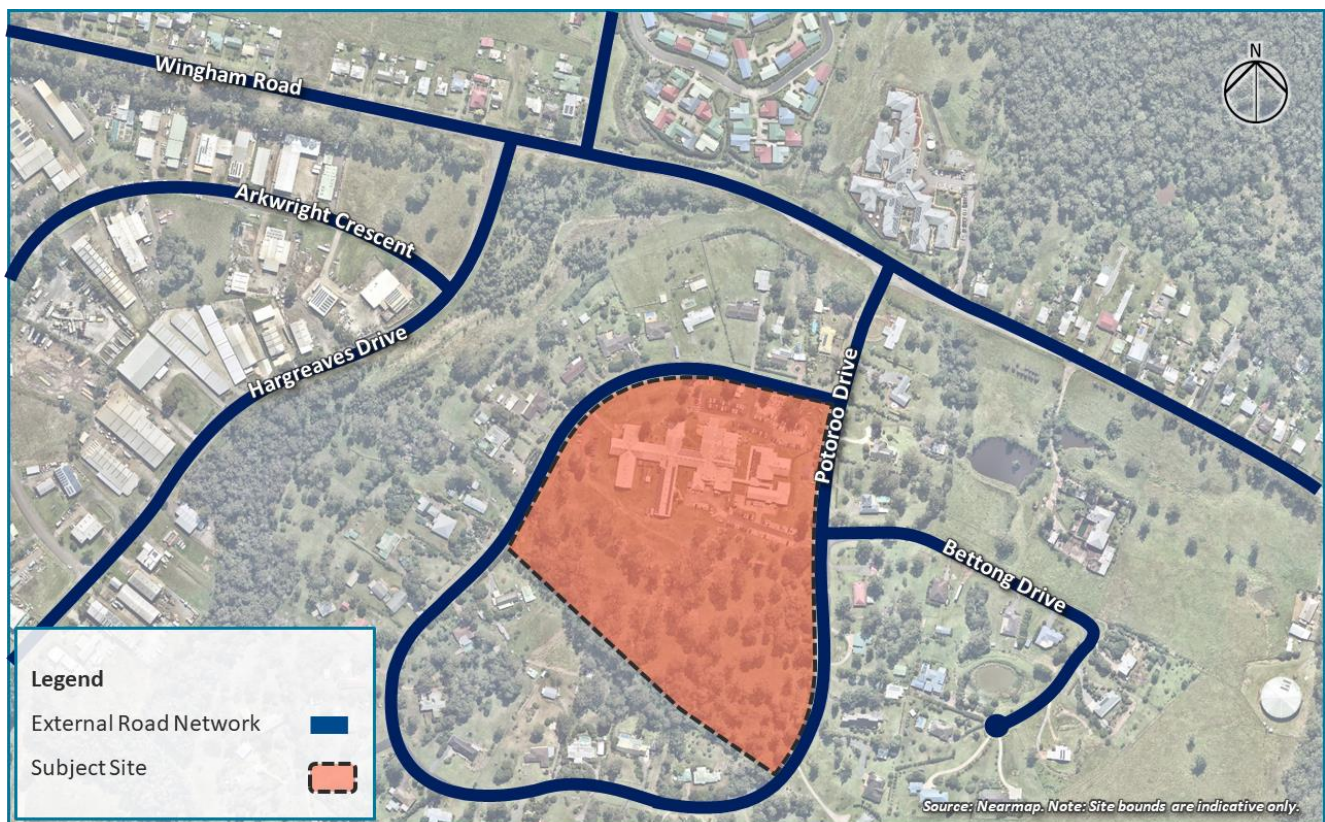
2.1 Site Context

The subject site is located at 2 Potoroo Drive, Taree in New South Wales, and is legally defined as Lot 1 DP808421. The site is located within the Mid-Coast Local Government Area (LGA) and is currently occupied by the Mayo Private Hospital and car parking areas associated with this existing facility.

The Private Hospital is located approximately 3km west of the Taree Town Centre, and approximately 8km west of the Pacific Highway (distance by air). Rural residential land surrounds the site in all directions.

The location of the site and its local context is shown in **Figure 1**.

Figure 1 Site Location



2.2 Surrounding Road Network

Details of the key roads within the vicinity of the subject site are summarised within **Table 1**.

Table 1 Key Surrounding Roads

Road Name	Road Hierarchy	Authority	Existing Form
Wingham Road	Regional Road	Council	Predominantly two-lane (marked), bidirectional, undivided, partially urban / partially rural cross section.
Potoroo Drive	Local Road	Council	Two-lane (unmarked), bidirectional, undivided, rural cross section.
Bettong Drive	Local Road	Council	Two-lane (unmarked), bidirectional, undivided, rural cross section.

Wingham Road is the East-West regional road, connecting the Private Hospital to the Taree Town Centre. It connects directly to other regional roads located east of the site, which further connect to the Pacific Highway.

2.3 Site Access

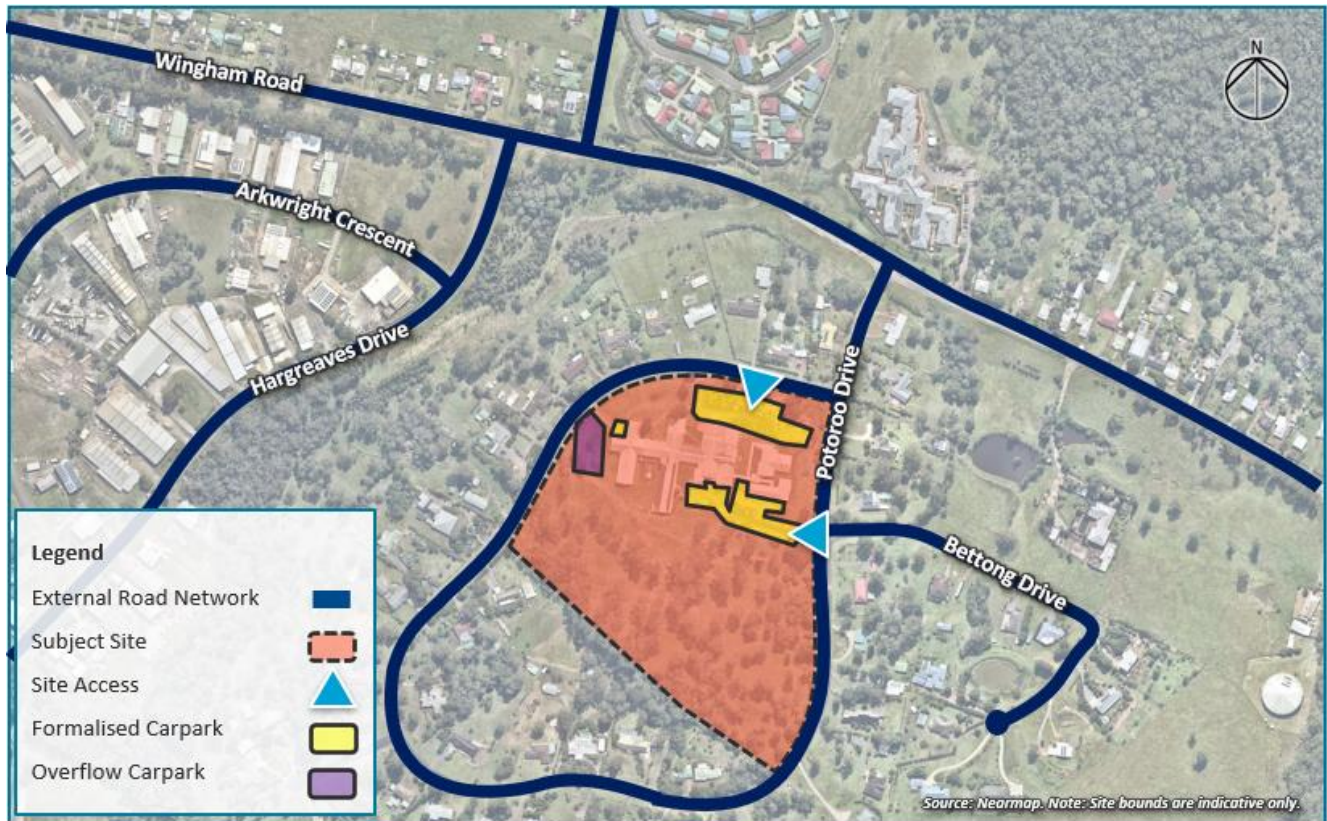
Access to the Private Hospital car parking is currently provided via the three following driveway crossovers on Potoroo Drive:

- Potoroo Drive / Northern Site Access
- Potoroo Drive / Eastern Site Access
- Potoroo Drive / Western Site Access.

Servicing vehicles currently access the site via the eastern site access and undertake loading/unloading within the existing loading area in the southern carpark. Emergency vehicles currently use the northern site access and park under the porte cochere attached to the northern side of the building, within the northern carpark. Patients and visitors utilise the northern and eastern site accesses and carparks.

The existing formalised car parks and site access locations are shown in **Figure 2**.

Figure 2 Site Access and Parking Provision



There are two existing off-street car parking areas with formalised car parking available for use by hospital staff, patients and visitors. There is currently one carpark located to the north of the existing building and a further car park to the south. On the western side of the existing building, there is an additional overflow parking area within the grassed area.

Across the two formalised car parking areas, there are a total of 168 parking spaces available. There is also currently a total of ten (10) parking for People with Disabilities (PWD) spaces, four (4) of which are in the southern carpark, with the remaining six (6) located in the northern carpark.

2.4 Public and Active Transport

There are two bus stops located within the vicinity of the site on Wingham Road, approximately 300m walk from the Private Hospital. The route servicing these stops is summarised in **Table 2**.

Table 2 Local Bus Services

Route	Description	Peak Service Frequency	Nearest Stop	First/ Last Service
319	Taree to Wingham	20 mins	243061 & 243062 (Inbound & Outbound)	8:20 am to 6:25 pm

Due to the rural nature and location of the site, there are no active transport facilities provided within the site's vicinity.

2.5 Crash Data

In order to highlight any safety deficiencies in the surrounding road network in proximity to the subject site, crash data has been extracted from Transport for New South Wales (TfNSW) Centre for Road Safety website. Crashes for the most recent five-year period between 2016 and 2020 (inclusive) were evaluated.

The locations of the reported crashes are illustrated in **Figure 3** with details and Road User Movement (RUM) codes summarised in **Table 3**.

Figure 3 Crash Locations

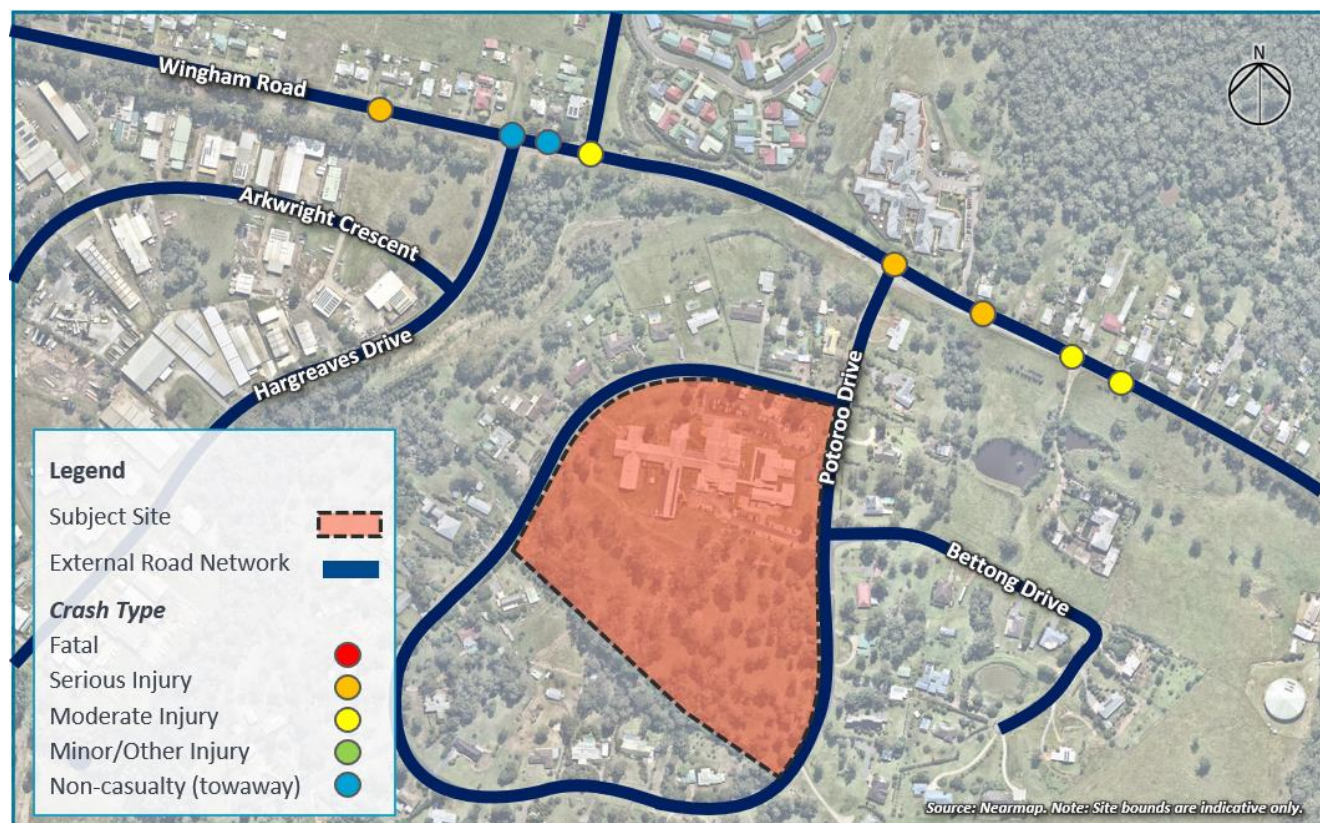


Table 3 Details of Reported Crashes (2016 – 2020) near the Proposed Development

Location	Crash ID	Year	Severity	RUM Code	Description
Wingham Road / Potoroo Drive	1183823	2018	Serious Injury	32	Right rear
Wingham Road (east of Potoroo Drive)	1233124	2020	Serious Injury	70	Off road to left
Wingham Road (east of Potoroo Drive)	1145649	2017	Moderate Injury	30	Rear end
Wingham Road (east of Potoroo Drive)	1236497	2020	Moderate Injury	74	On-road out of control
Wingham Road / Marie Avenue	1109329	2016	Moderate Injury	32	Right rear
Wingham Road (west of Marie Avenue)	1168943	2018	Non-Casualty (towaway)	40	U-turn
Wingham Road / Hargreaves Drive	1119772	2016	Non-Casualty (towaway)	13	Right near
Wingham Road (west of Hargreaves Drive)	1159411	2018	Serious Injury	4	Ped walk with

As documented in **Figure 3** and **Table 3**, there were a total of four (4) reported crashes on Wingham Road within the vicinity of the Wingham Road / Potoroo Drive intersection. An additional four (4) crashes were report on Wingham Road at or to the north of the Wingham Road / Marie Avenue intersection. Only one (1) incident was reported at the actual Potoroo Drive intersection.

Three (3) of these reported crashes resulted in serious injuries and there were no fatal crashes reported within this period. Of the remaining five (5) other reported crashes, three (3) resulted in moderate injuries, with the remaining two (2) being towaway only (non-casualty).

3 Proposed Development

3.1 Overview

The proposed development is comprised of the following elements:

- The partial demolition of the existing building to allow for the proposed extension.
- Construction of an extension to the existing building, with 44 new patient rooms (beds) provided between the mental health ward and the rehabilitation ward.
- The removal of 8 existing parking spaces, with 6 removed from the northern car park and 2 lost from the southern car park.
- The construction of a new western car park, which will include 42 parking spaces, and the extension of the existing northern car park with an additional 22 spaces provided.
- There is sufficient parking space for a further ambulance next to the existing ambulance space under the porte cochere located on the north side of the hospital building.

Plans of the proposed development are given in **Appendix A**.

3.2 Car Parking

The development plans indicate a net increase of 56 parking spaces resulting from 64 new spaces and the loss of 8 existing spaces. A summary of the proposed parking provision is given in **Table 4**.

Table 4 Car Parking Schedule

Car Park Component		Parking Spaces	PWD Spaces	Total Spaces
Existing		158	10	168
Proposed	Demolished	-6	-2	-8
	Constructed	63	1	64
Total		215	9	224

3.3 Site Access

The northern and eastern existing car park and site access driveways will be largely retained, with the north-western car park removed and the existing access upgraded to facilitate access to the new car park. An additional access will be provided to Potoroo Drive from the proposed new western car park. The upgraded and new access for the western car park comprises of an all-movements, bi-directional access.

3.4 Servicing

Given the relatively minor increase in yield to the proposed development, servicing for the site will be retained, with no changes to the existing arrangements proposed.

4 Car Parking and Access

4.1 Car Parking Requirements

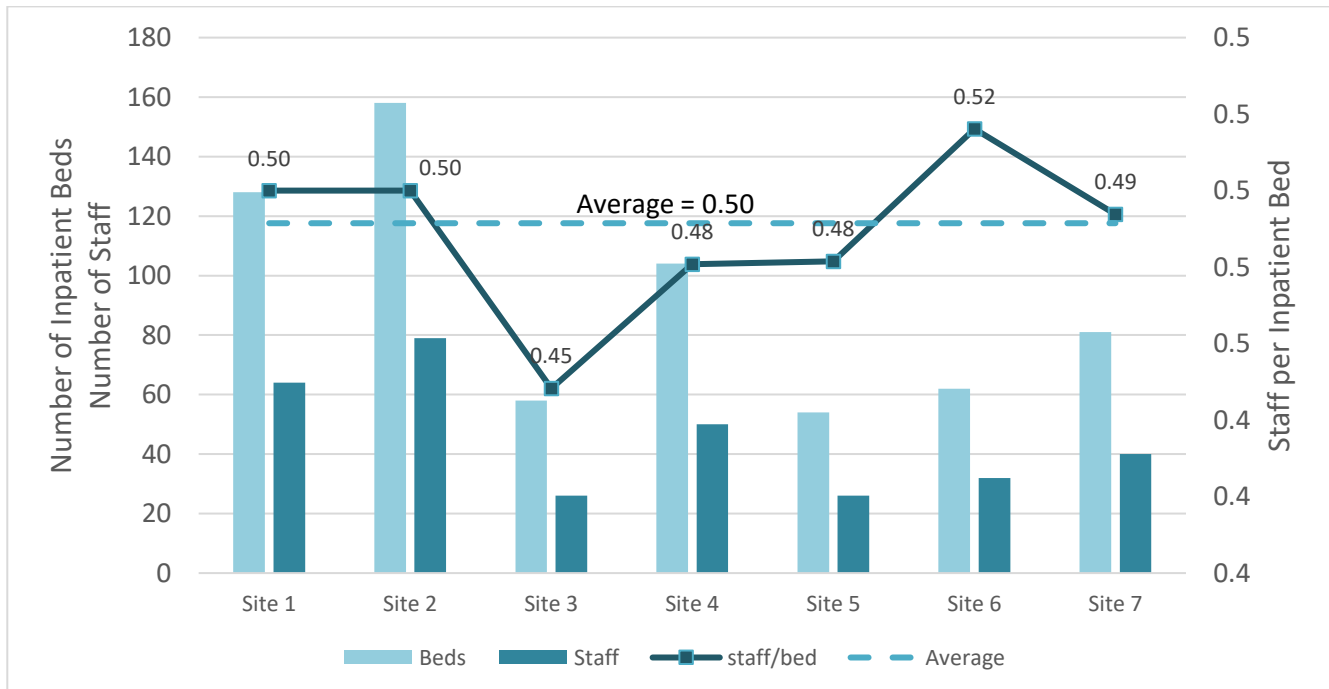
The car parking requirements for specific land uses are set out in the Greater Taree City Council DCP 2010 (**DCP**), where the parking requirement for a hospital is:

- 1 space per 3 beds for visitors; plus
- 1 space per 2 staff/resident doctor; plus
- 1 space per 15 beds for visiting doctors; plus
- 1 space for ambulance (minimum)

Where employee or staff includes the number of staff on the site at any one time during peak operating period.

Whilst the exact staffing numbers for the existing Private Hospital and proposed Mental Health Facility were not confirmed during the preparation of this assessment, a review of other similar sites has been undertaken to estimate approximate staff numbers. Seven existing Private Hospital and Mental Health Facility sites were reviewed to determine an approximate rate of staff per bed. The results of the review are shown in **Figure 4** below. For all sites, there were approximately 0.5 staff per bed.

Figure 4 Review of Staff Numbers at Other Sites



From the above, it is anticipated that the proposed extension to the existing site (44 beds) could result in an increase of 22 staff. Adopting this as an assumption, the car parking requirement for the redevelopment is given in **Table 5**.

Table 5 Car Parking Requirement

Land Use	Yield*	Car Parking Rate	Requirement
Hospital	22 staff & 44 beds	1 space per 3 beds for visitors; plus	15 spaces
		1 space per 2 staff/resident doctor; plus	11 spaces
		1 space per 15 beds for visiting doctors; plus	3 spaces
		1 space for ambulance (minimum)	1 ambulance bay
Total Parking Requirement (DCP 2010)			29 spaces plus 1 ambulance bay

*the proposed yield relates to the net increase in beds (and therefore staff) due to the proposed extension of the existing Private Hospital

As outlined in Section 3.2, the development proposes a net parking increase of 56 spaces. This increase in parking is sufficient to meet the requirements under the DCP.

4.2 Parking for People with Disabilities

The parking requirements and standards for off-street parking for People with Disabilities (PWD) is set out in AS2890.6 as well as the Building Code of Australia (BCA). The hospital provides a mixture of services for inpatient and outpatient-based programs. The accessible car parking space provision for hospital (building Class 9a) is set out in Table D3.5 of Volume 1 of the BCA, as shown in **Table 6**.

Table 6 PWD Car Parking Space Requirement

Component	PWD Space Requirement
(a) Hospital (inpatient area)	1 space for every 100 car parking spaces or part thereof.
(b) Hospital (outpatient area)	
(i) up to 1000 carparking spaces; and	1 space for every 50 carparking spaces or part thereof.
(ii) for each additional 100 carparking spaces or part thereof in excess of 1000 carparking spaces.	1 space.

To be conservative it has been assumed that the PWD parking space provision is in line with the greater requirement i.e. all patient rooms are assumed to provide outpatient type services, and therefore 1 PWD space is required for every 50 car parking spaces.

Based on the hospital's total parking space provision of 224 spaces, the nine (9) PWD spaces is sufficient to meet the BCA requirement.

4.3 Car Park Layout

The new parking components within the development plans have been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS2890.1:2004 and AS2890.6:2009). The review considered the following:

- Parking bay widths and lengths;
- Parking aisle widths;
- Proximity of adjacent structures, other parking spaces, and footways;

- Blind aisles;
- Circulation roadways and any ramps/ grades; and
- Parking for people with disabilities.

The dimensional requirements of the additional off-street car parking facilities are in line with AS2890.1, where the parking is classified in accordance with User Class 3 (short-term city and town centre parking, parking stations, hospital and medical centres).

4.4 Servicing

As the proposed development consists of an extension of the existing Private Hospital, it is proposed that any servicing demands due to the additional yield will be catered for within the existing servicing arrangements.

No changes to the existing servicing arrangements are proposed.

4.5 Emergency Vehicles

As outlined in **Table 5**, the proposed development requires access for an ambulance, with provision for an additional ambulance bay required under the DCP.

It is proposed that the requirement for 1 ambulance bay will be provided in line with the existing provision, with ambulance access/standing provided via the porte cochere in the northern car park. No additional ambulance bay is proposed as part of the works.

5 Traffic Demands

5.1 Surveyed Traffic Demands

In order to ascertain the existing traffic demands for the road network surrounding the site, traffic surveys were undertaken on Thursday 2 December 2021 to capture the weekday AM peak and PM peak periods at the following intersections:

- Wingham Road / Potoroo Drive;
- Potoroo Drive / Bettong Drive / Southern Site Access;
- Potoroo Drive / North-eastern Site Access

Based on the traffic survey data it was established that the network peak hours were:

- Weekday AM peak hour – 8:15am to 9:15am; and
- Weekday PM peak hour – 2:45pm to 3:45pm.

The above peak periods were adopted for the traffic assessment. The traffic volumes used for this assessment are provided at **Appendix B**.

5.2 Background Traffic Growth

A background traffic growth rate of 2.0% per annum has been adopted. This growth rate has been applied to the through movements on Wingham Road, given that Potoroo Drive is a mature catchment, with no further intensification anticipated.

5.3 Development Traffic Demands

The Guide to Traffic Generating Developments (RMS, 2002) documents extensive traffic generation rates for a variety of land uses. For Private Hospitals, the Guide recommends the following trip generation rates based on the number of beds:

- Peak Vehicle Trips (PVT) = $-22.07 + 1.04B$
- Morning Vehicle Trips (MVT) = $-12.41 + 0.57B$
- Evening Vehicle Trips (EVT) = $-11.96 + 0.69B$

Where B is the number of beds

The hospital expansion will result increase the number of patient rooms (beds) provision by 44 beds. Application of the RMS trip generation rates based on this proposed increase in yield results in the following increase in trip movements:

- Peak Vehicle Trips (PVT) = 24vph
- Morning Vehicle Trips (MVT) = 13vph
- Evening Vehicle Trips (EVT) = 18vph.

Based on survey volumes, this equates to 8% and 12% of the existing traffic travelling to/from Potoroo Drive in the AM and PM peak hours respectively.

5.4 Traffic Distribution

The directional splits adopted for the development traffic travelling in and out of the development has been determined from surveyed directional splits for the existing Mayo Private Hospital. These splits are shown in **Table 7** below.

Table 7 Directional Split

AM Peak		PM Peak	
IN	OUT	IN	OUT
69%	31%	38%	62%

It has been assumed that all development traffic would be travelling to or from Wingham Road due to the land uses surrounding the hospital. At Wingham Road, the external traffic distribution adopted for the development traffic has also been based of the surveyed distributions during the network peaks. The proportions adopted are as summarised in **Table 8**.

Table 8 External Traffic Distribution

Direction	AM Peak		PM Peak	
	IN	OUT	IN	OUT
East	78%	79%	75%	69%
West	22%	21%	25%	31%

6 Operational Assessment

6.1 Overview

A detailed analysis of the potential traffic impacts of the proposed development on the external road network was undertaken according to typical Council requirements and engineering practice. The assessed traffic demands are provided at **Appendix B**. Due to the low traffic volumes on Potoroo Road and the local network, no further analysis has been undertaken for the site access intersections as no traffic issues are expected to be caused by the additional movements in these locations. Higher volumes are evident at the Wingham Road intersection. As such, an operational assessment has been undertaken for the Wingham Road / Potoroo Road intersection to understand any potential traffic impacts associated with the proposed development. The assessment of this intersection is documented within this section.

6.2 Assessment Scenarios

Impacts have been assessed at the following defined assessment years:

- Year of completion of ultimate build-out of the development (Completion Year); and
- 10 year design horizon for the ultimate build-out of the development.

Based on the above, and on the assumption that the development's year of opening is 2024, the operational performance of the impacted road network has been considered for the following assessment years:

- 2024 'Background' to establish the year of opening baseline operational performance in the absence of the development;
- 2024 'With Development' to identify the impact of the development generated traffic demands at the year of opening;
- 2034 'Background' to establish the 10 year design horizon baseline operational performance in the absence of the development;
- 2034 'With Development' to identify the impact of the development generated traffic demands at the 10 year design horizon.

The operation of the road network was assessed for the weekday AM and PM peaks for the above assessment scenarios.

6.3 Performance Criteria

6.3.1 Intersection Performance Thresholds

The study intersection was analysed for each of the aforementioned scenarios using SIDRA Intersection 9 (SIDRA). SIDRA is an industry recognised analysis tool used to estimate the capacity and performance of intersections based on input parameters, including geometry and traffic volumes. SIDRA provides an estimate of an intersection's Degree of Saturation (DOS), queues and delays.

DOS thresholds, as defined in the Department of Transport and Main Roads (DTMR) *Guidelines for Assessment of Road Impacts of Development* (GARID) 2006, have been used to understand the operational performance of an intersection. The DOS thresholds are presented in **Table 9** below.

Table 9 DTMR GARID Intersection Performance Thresholds

Intersection Type	DOS Threshold
Signalised intersections	Less than or equal to 0.90
Roundabouts	Less than or equal to 0.85
Priority controlled intersections	Less than or equal to 0.80

DOS values exceeding the thresholds presented in **Table 9** indicate that as the intersection is nearing its practical capacity, road users are likely to experience rapidly increasing delays and queuing, and that mitigation works may be required.

Importantly, it is noted that DOS is not the only performance indicator and that other measures such as critical delay should also be considered when assessing the performance of an intersection. TfNSW recommend the use of the critical movement delay for assessing the performance of priority-controlled intersections.

TfNSW's *Guide to Traffic Generating Developments* states that the average delay statistic for the critical movement provides a better indication of intersection performance and safety for roundabouts and priority-controlled intersections than DOS. A summary of the delay thresholds recommended by TfNSW is provided in **Table 10**.

Table 10 TfNSW LOS Criteria for Intersections

LOS	Max Delay/ Average Delay* (sec/vehicle)	Traffic Signals/ Roundabout	Priority Controlled Intersections
A	< 14	Good operation	Good operation
B	15 – 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 – 42	Satisfactory	Satisfactory, but accident study required
D	43 – 56	Operating near capacity	Operating near capacity and accident study required
E	57 – 60	At capacity, at signals, incidents will cause excessive delays. Roundabouts requires other control mode	At capacity, requires other control mode

*Maximum Delay for priority intersections/ roundabouts, Average Delay for signalised intersections

6.4 Intersection Assessment

6.4.1 Wingham Road / Potoroo Drive

The Wingham Road / Potoroo Drive intersection is a 3-way, all movements, priority-controlled intersection. An aerial view of the existing intersection, alongside the site layout extracted from the SIDRA model are shown on **Figure 5**.

The layout adopted is reflective of the existing operation of the intersection. Whilst two through lanes are provided in each direction on Wingham Road, due to their constrained provision, traffic does not move across to use the kerbside lane, and therefore Wingham Road effectively operates as a single through lane in each direction. In the instance that a vehicle is queued to turn right into Potoroo Drive, vehicles travelling eastbound towards Taree would move across to the kerbside lane.

The traffic survey footage has been reviewed during the peak hour periods to ensure that the SIDRA model outputs are reflective of the existing operations (i.e. delays and queues are comparable).

A summary of the outputs from the SIDRA assessment is presented in **Table 11** Error! Reference source not found., with detailed outputs provided at **Appendix C**.

Figure 5 Wingham Road / Potoroo Drive – Existing – Intersection Form

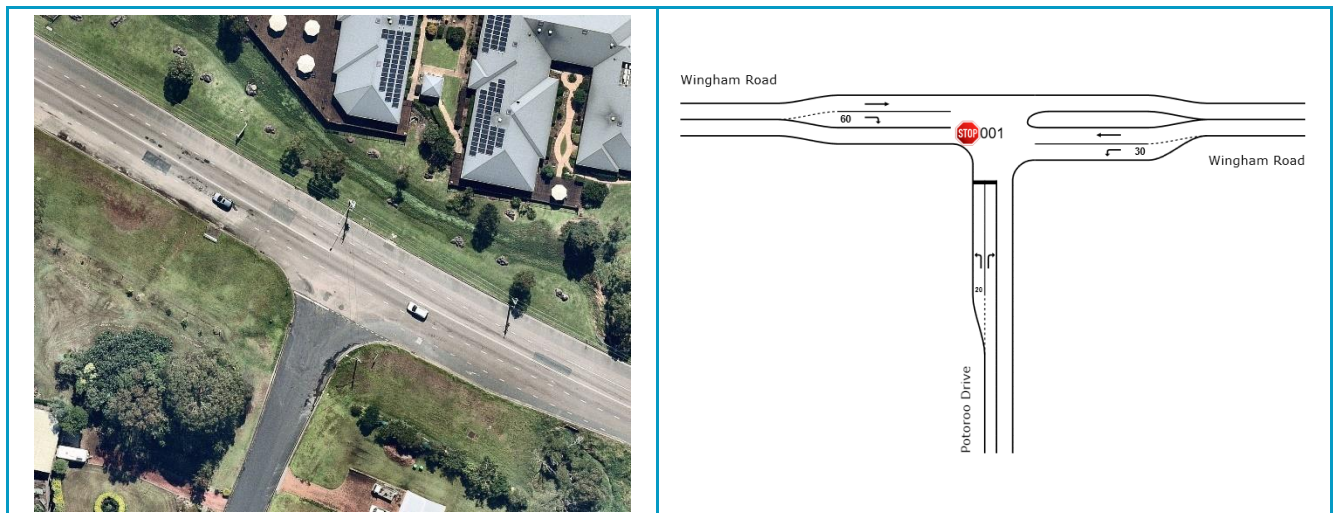


Table 11 Wingham Road / Potoroo Drive – Existing – SIDRA Output

Scenario	AM Peak				PM Peak			
	Max DOS	Average Delay	Critical Delay	Average Queue	Max DOS	Average Delay	Critical Delay	Average Queue
Without Development								
2021 Survey	0.44	2s	39s	4m	0.45	2s	42s	5m
2024 Background	0.46	2s	48s	5m	0.55	3s	54s	6m
2034 Background	0.92	6s	178s	12m	1.09	9s	263s	24m
With Development								
2024 Background + Development	0.50	3s	50s	5m	0.62	3s	59s	7m
2034 Background + Development	0.99	7s	207s	16m	1.25	14s	365s	39m

As shown in Table 11 Error! Reference source not found., the right turn out of Potoroo Drive will operate beyond typically accepted thresholds at/around 2024 regardless of the proposed redevelopment proceeding given the Background critical delay for the right turn movement exceeds 42 seconds in both peak hour periods. The 42 seconds represents the upper end range for the TfNSW LoS C and is recognised as the threshold after which motorists are more likely to accept lesser gaps which may impact safety.

It is noted that similar capacity constraints are likely also present at other intersections along the Wingham Road corridor given the consistency in intersection formations and traffic demands.

Whilst SLR have not been made aware of any planning regarding the Wingham Road corridor, potential works have been identified for the Wingham Road / Potoroo Drive intersection that could mitigate the incremental impact associated with the proposed development.

The intersection layout as shown in SIDRA is shown in **Figure 6**. The evaluated works include the allowance for a channelised left turn into Potoroo Drive. This would reduce the negotiation distance for vehicles turning right from both Wingham Road and Potoroo Drive. It would also reduce the conflict from opposing vehicles for those turning right in and out of Potoroo Drive.

The evaluated works would not prejudice any future works that may occur along the Wingham Road corridor.

A summary of the outputs from the SIDRA assessment of the upgraded intersection is presented in **Table 12**, with detailed outputs provided at **Appendix C**.

Figure 6 Wingham Road / Potoroo Drive – Proposed – Intersection Form

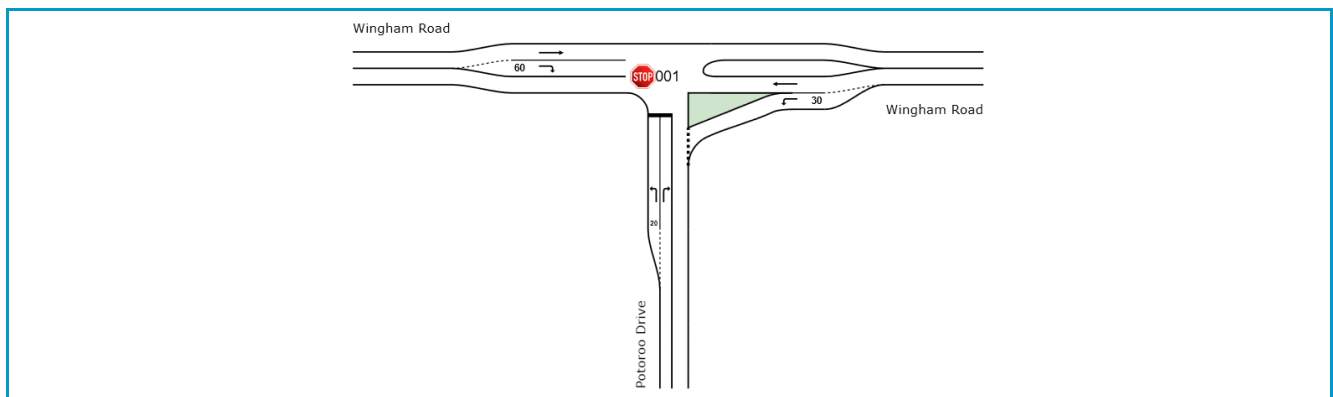


Table 12 Wingham Road / Potoroo Drive – Proposed – SIDRA Output

Scenario	AM Peak				PM Peak			
	Max DOS	Average Delay	Critical Delay	Average Queue	Max DOS	Average Delay	Critical Delay	Average Queue
With Development								
2024 Background + Development	0.46	2s	45s	5m	0.59	3s	53s	6m
2034 Background + Development	0.90	6s	159s	12m	1.12	12s	302s	32m

From the above results, the evaluated works would reduce the DOS, average delay, and queues such that they are consistent with, or better than, those associated with the background scenario. That is, the works would go some way to offset the forecast development impact.

7 Summary

SLR has been engaged by Healthe Care Australia to prepare a Traffic Impact Assessment (TIA) for the proposed Mental Health Facility development and works to the Rehabilitation Ward at the Mayo Private Hospital at 2 Potoroo Drive, Taree in New South Wales.

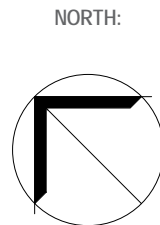
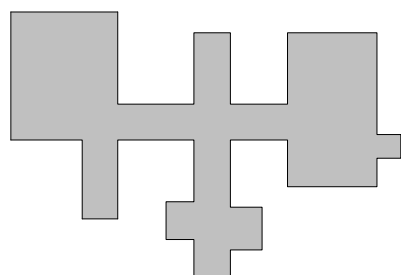
Plans for the development proposal have been prepared by HSPC Health Architects. A copy of the development plans is included at **Appendix A**.

Based on the analysis and assessment conducted as part of this TIA, the following conclusions have been made:

- The proposed vehicular access arrangements are considered reasonable on the following basis:
 - The identified mitigation works at the Wingham Road / Potoroo Drive intersection would offset a proportion of the additional delay resulting from the development traffic egressing the site.
 - No changes are proposed to the existing northern and eastern car parking accesses.
 - The proposed driveway accesses to the western car park have been designed in accordance with AS2890.
- The trafficable design including access, circulation, car parking and servicing is appropriate and consistent with the applicable provisions of the AS2890 suite of Australian Standards.
- The proposed increase provision of 56 parking spaces across the site satisfies the requirements outlined in Councils DCP.
- The proposed development includes sufficient parking for persons with a disability and complies with the BCA.
- Servicing for the development will occur in line with the existing servicing arrangements for the Private Hospital, with no further changes proposed.

APPENDIX A

Development Plans



MAYO PRIVATE HOSPITAL

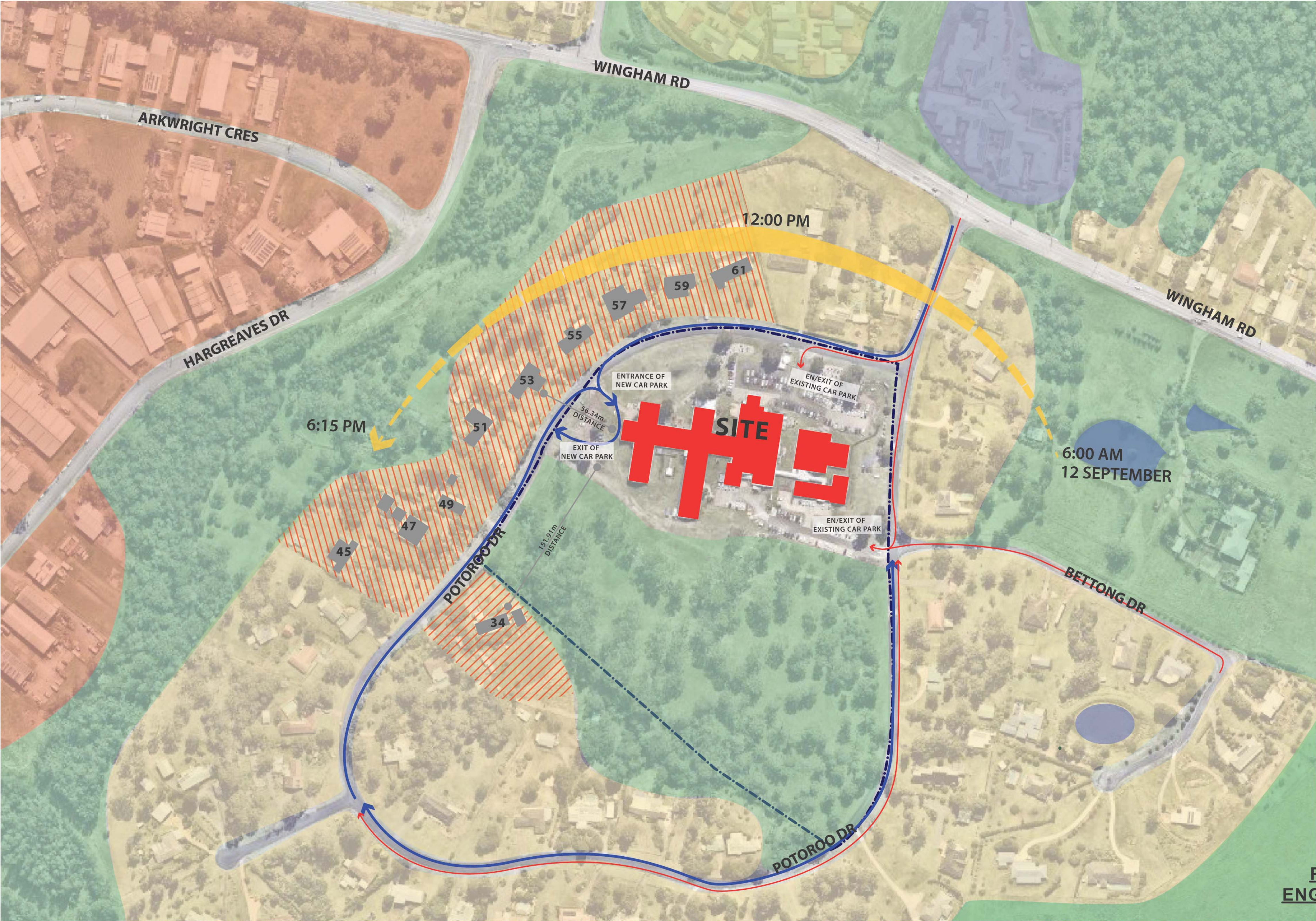
POTOROO DRIVE, TAREE NSW, 2430

DRAWING SCHEDULE

DA000	COVER SHEET	N.A@A1
DA010	EXISTING & DEMO SITE PLAN	1:500@A1
DA011	EXISTING GROUND FLOOR DEMO PLAN -ZONE 1	1:100@A1
DA011A	EXISTING LOWER GROUND DEMO PLAN -ZONE 1	1:100@A1
DA012	EXISTING GROUND FLOOR DEMO PLAN -ZONE 2	1:100@A1
DA013	EXISTING GROUND FLOOR DEMO PLAN -ZONE 3	1:100@A1
DA020	PROPOSED SITE PLAN	1:500@A1
DA021	PROPOSED LOWER GROUND-ZONE 1_CARPARK	1:200@A1
DA030	PROPOSED GROUND FLOOR PLAN-ZONE 1	1:100@A1
DA031	PROPOSED LOWER FLOOR PLAN-ZONE 1	1:100@A1
DA032	PROPOSED GROUND FLOOR PLAN-ZONE 2	1:100@A1
DA033	PROPOSED GROUND FLOOR PLAN-ZONE 3	1:100@A1
DA040	PROPOSED ROOF PLAN-ZONE 1	1:100@A1
DA041	PROPOSED ROOF PLAN-ZONE 2	1:100@A1
DA042	PROPOSED ROOF PLAN-ZONE 3	1:100@A1
DA200	PROPOSED ELEVATIONS-ZONE 1	1:100@A1
DA201	PROPOSED ELEVATIONS-ZONE 2	1:100@A1
DA203	PROPOSED ELEVATIONS-ZONE 3	1:100@A1
DA500	SHADOW DIAGRAMS	1:750@A1
DA510	PERSPECTIVE VIEWS	N/A

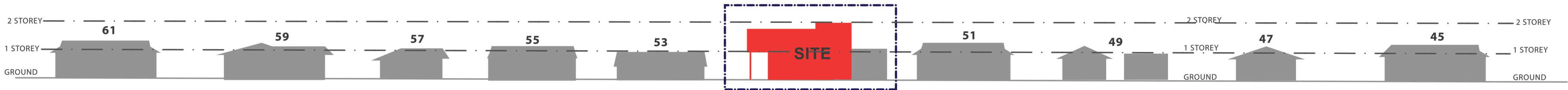
DEVELOPMENT INFORMATION

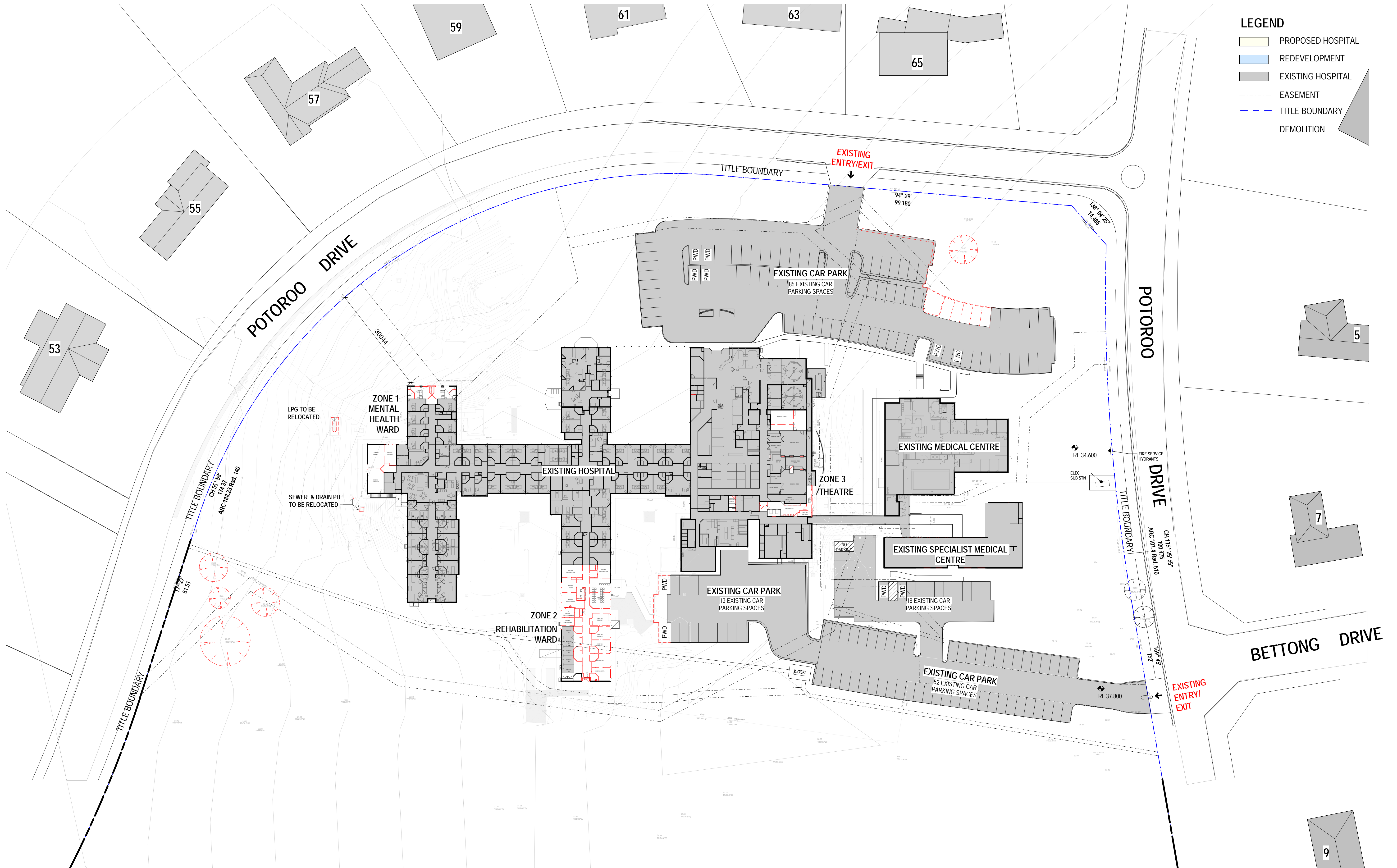
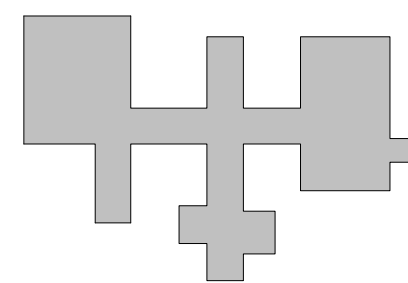
BED NUMBERS	
TOTAL EXISTING BEDS	81
EXISTING BEDS TO BE DEMOLISHED	0
TOTAL NEW BEDS	44
TOTAL BEDS	125
CAR PARK SPACES	
EXISTING CAR PARKING SPACES	168
EXISTING PARKING SPACES TO BE DEMOLISHED	8
PROPOSED CAR SPACES	64
TOTAL CAR PARK SPACES	224
TOTAL GFA	
EXISTING GFA	6,365 s.q.m
PROPOSED GFA	2,944 s.q.m
TOTAL GFA	9,309 s.q.m

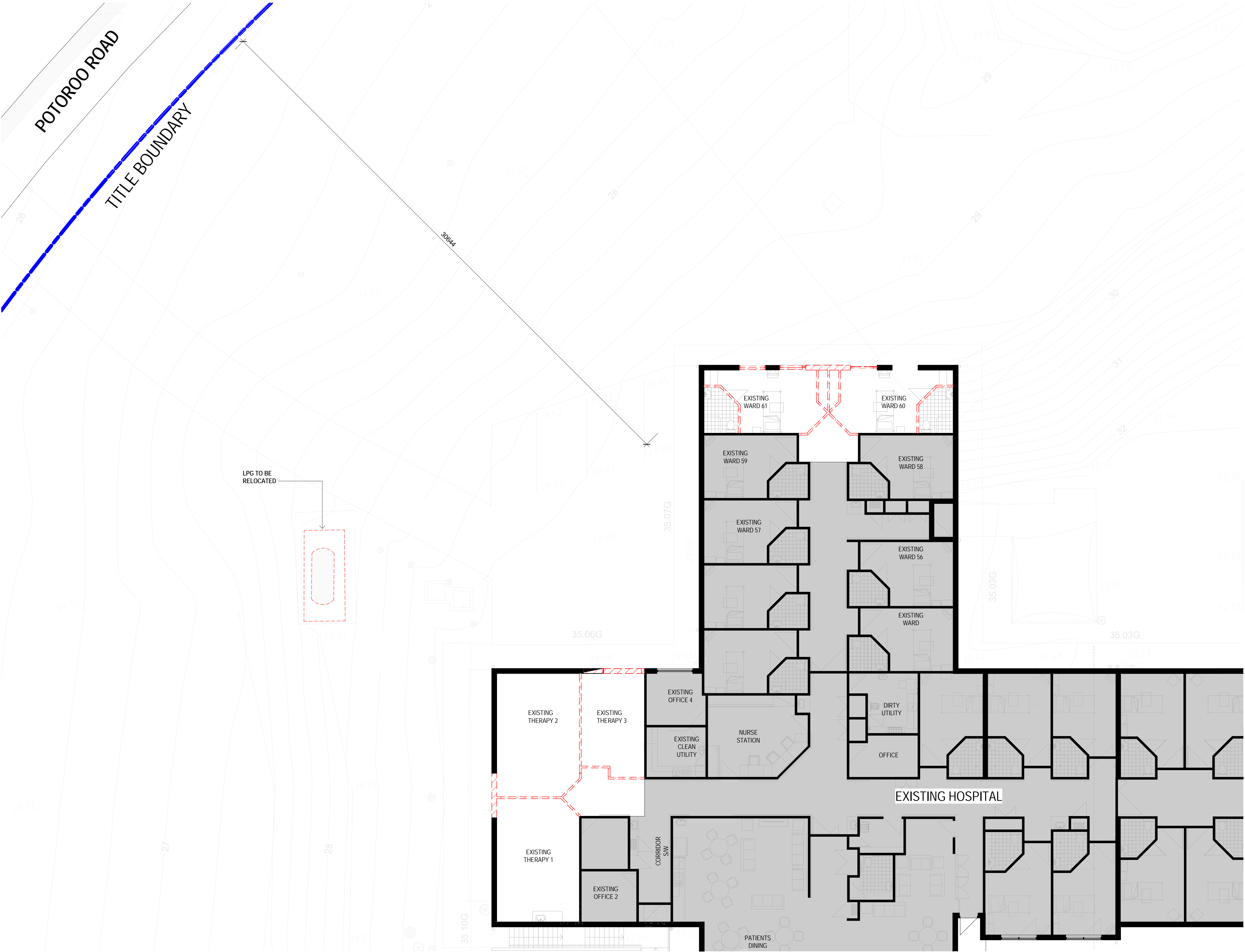
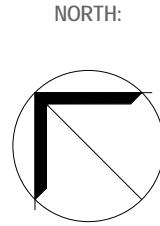
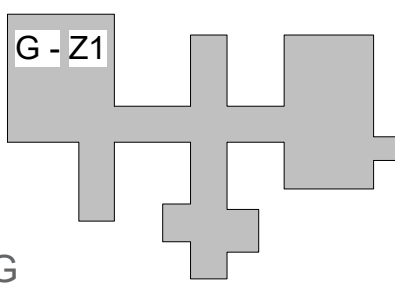


- LEGEND**
- SITE
 - RESIDENTIAL/ SCHOOL/ OTHERS
 - RETAIL
 - GREENERY SPACE
 - HOSPITAL
 - WATER
 - ONE-STOREY BUILDINGS
 - VISUAL SITE ENGAGEMENT
 - SITE BOUNDARY
 - EXISTING ROUTE TO CAR PARK
 - NEW ROUTE TO CAR PARK
 - SUN PATH

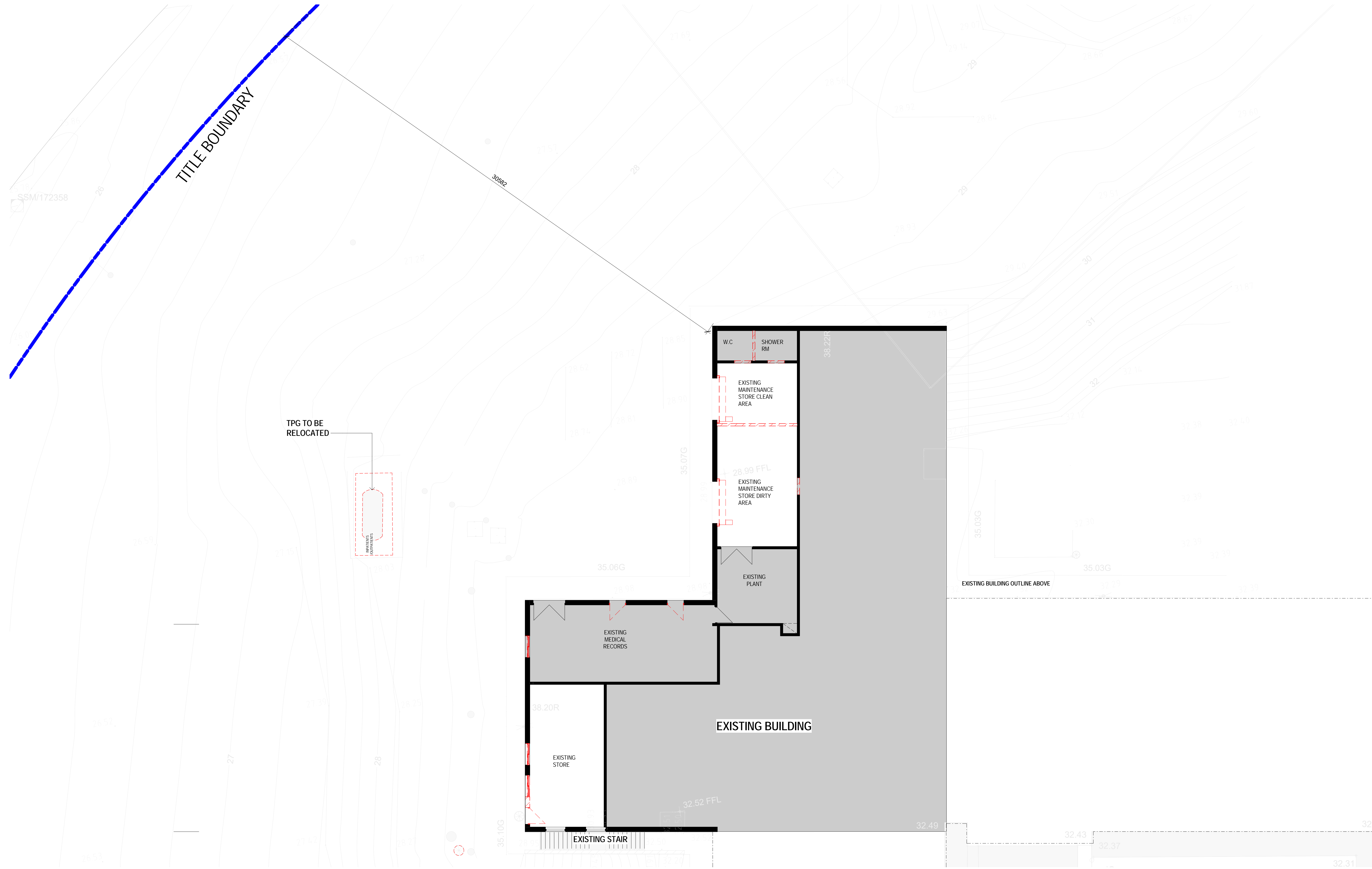
POTOROO DR BUILDING VISUAL SITE ENGAGEMENT AND HEIGHTS OVERVIEW







- LEGEND
- PROPOSED HOSPITAL
 - REDEVELOPMENT
 - EXISTING HOSPITAL
 - EASEMENT
 - TITLE BOUNDARY
 - DEMOLITION



Melbourne
Level 1, 525 Flinders Street
Melbourne Victoria 3000

Sydney
Level 5, 219 Castlereagh Street,
Sydney, NSW, 2000
E info@hspc.com.au
W www.hspc.com.au

MAYO PRIVATE HOSPITAL
POTOROO DRIVE, TAREE NSW, 2430

PROJECT NO:
9-21-0021

PROJECT DATE:
18/02/2022

REASON FOR ISSUE:
TOWN PLANNING

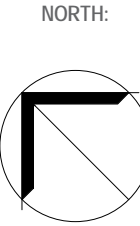
EXISTING SITE PLAN / DEMOLITION LOWER GF_ZONE 1
Healthe Care

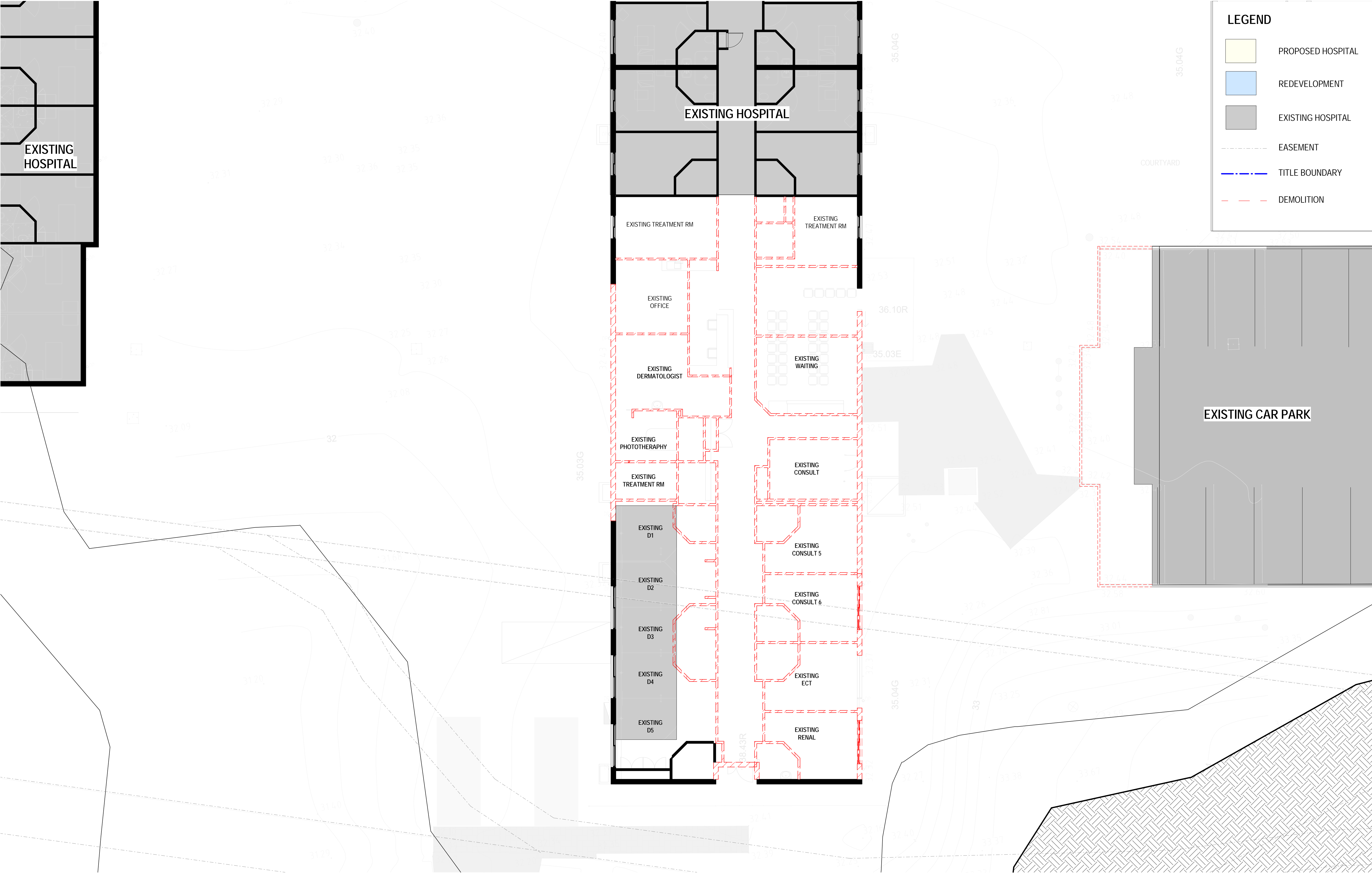
REVISION:
A

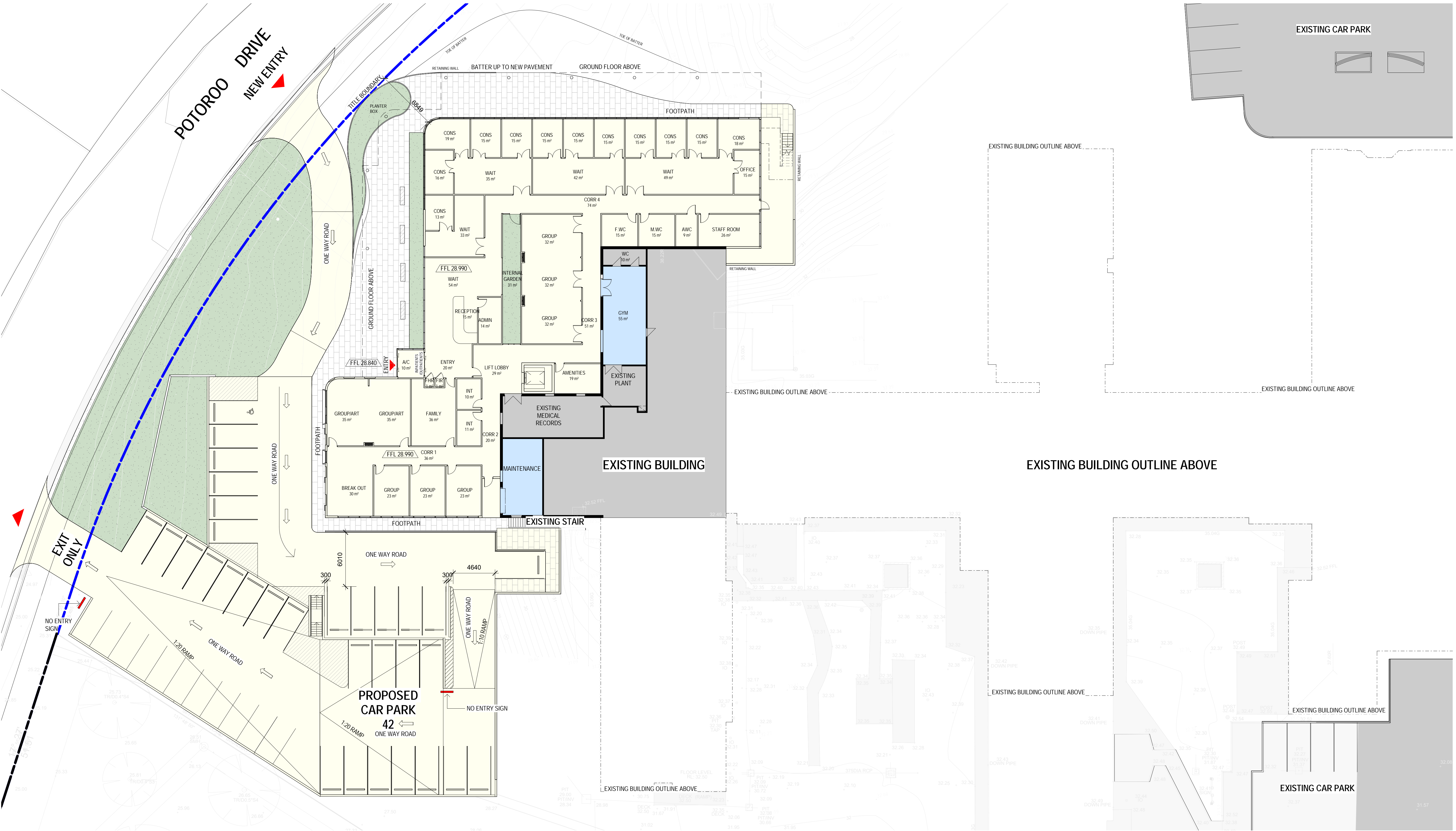
SHEET DATE:
24/05/2022

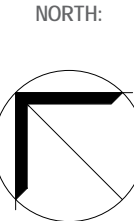
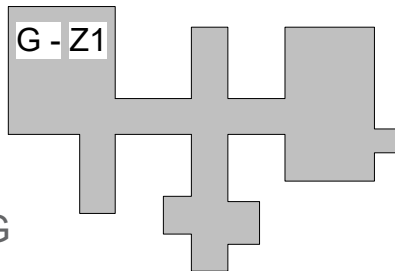
SCALE:
1 : 100 @ A1

DRAWING NO:
DA011A



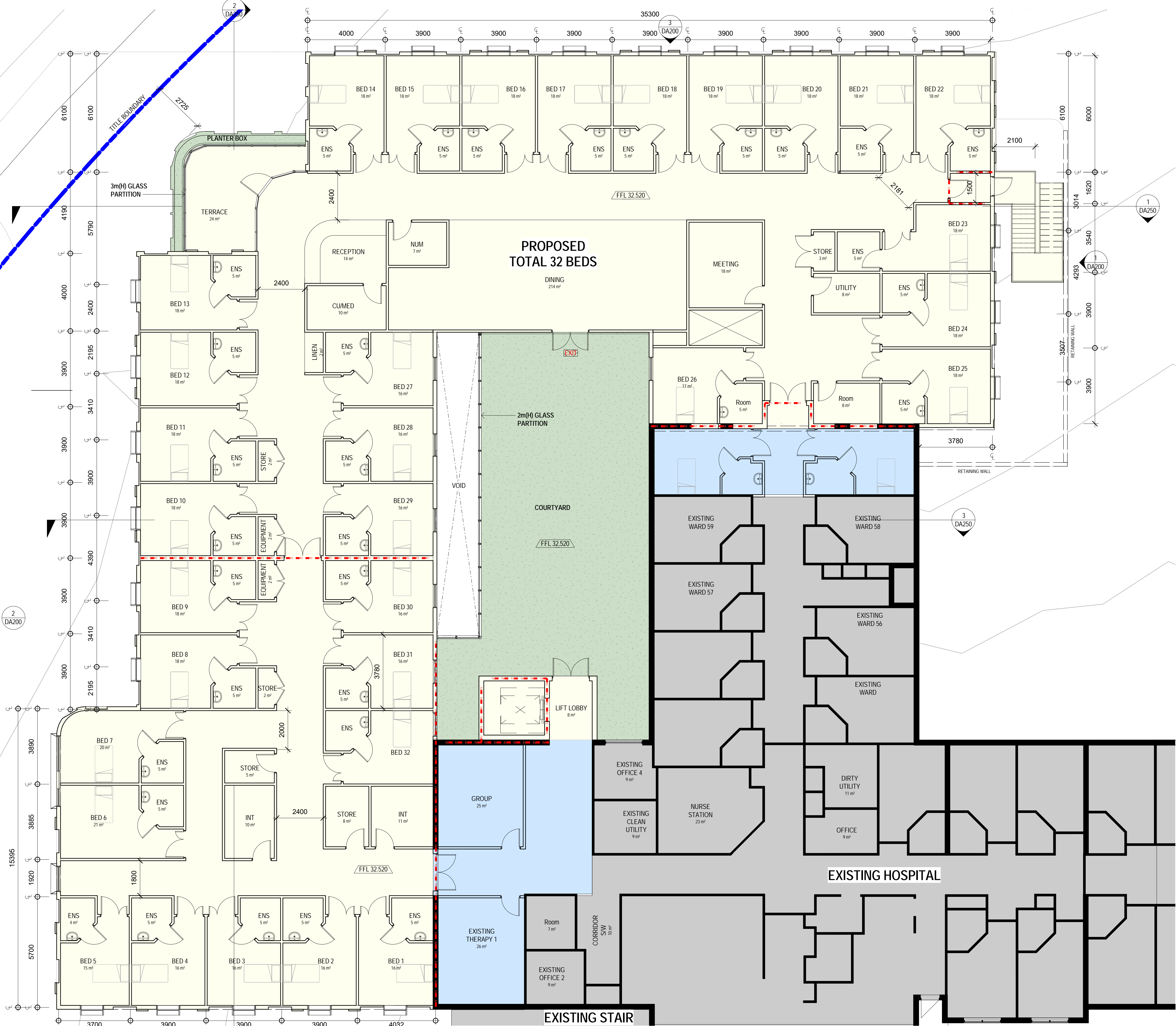







LEGEND

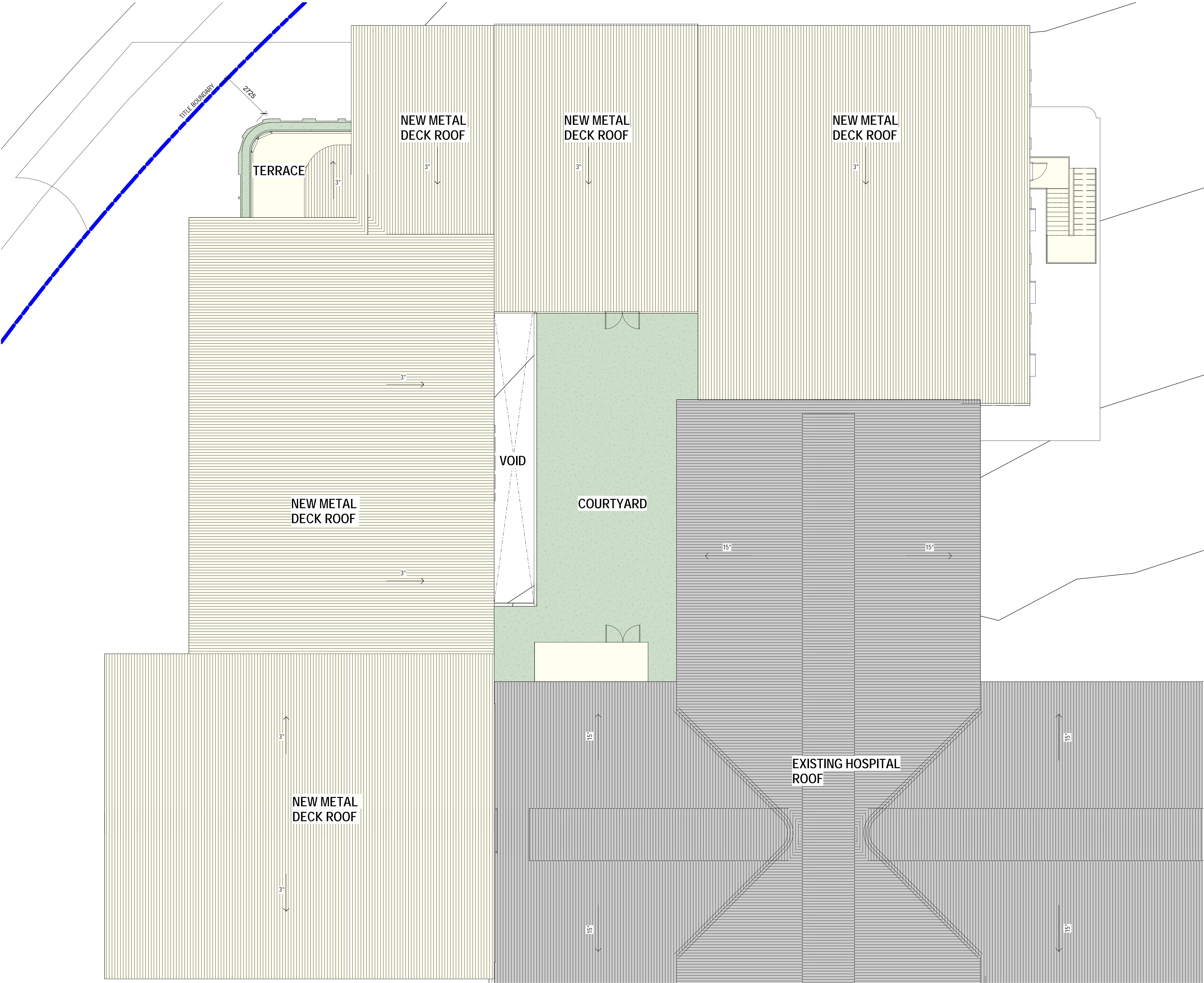
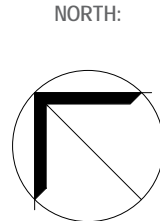
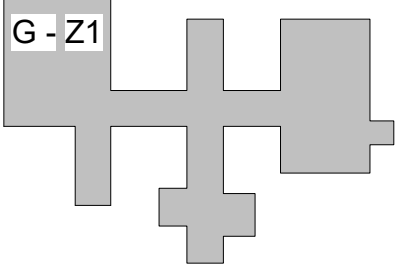
- PROPOSED HOSPITAL
- REDEVELOPMENT
- EXISTING HOSPITAL
- EASEMENT
- TITLE BOUNDARY
- DEMOLITION

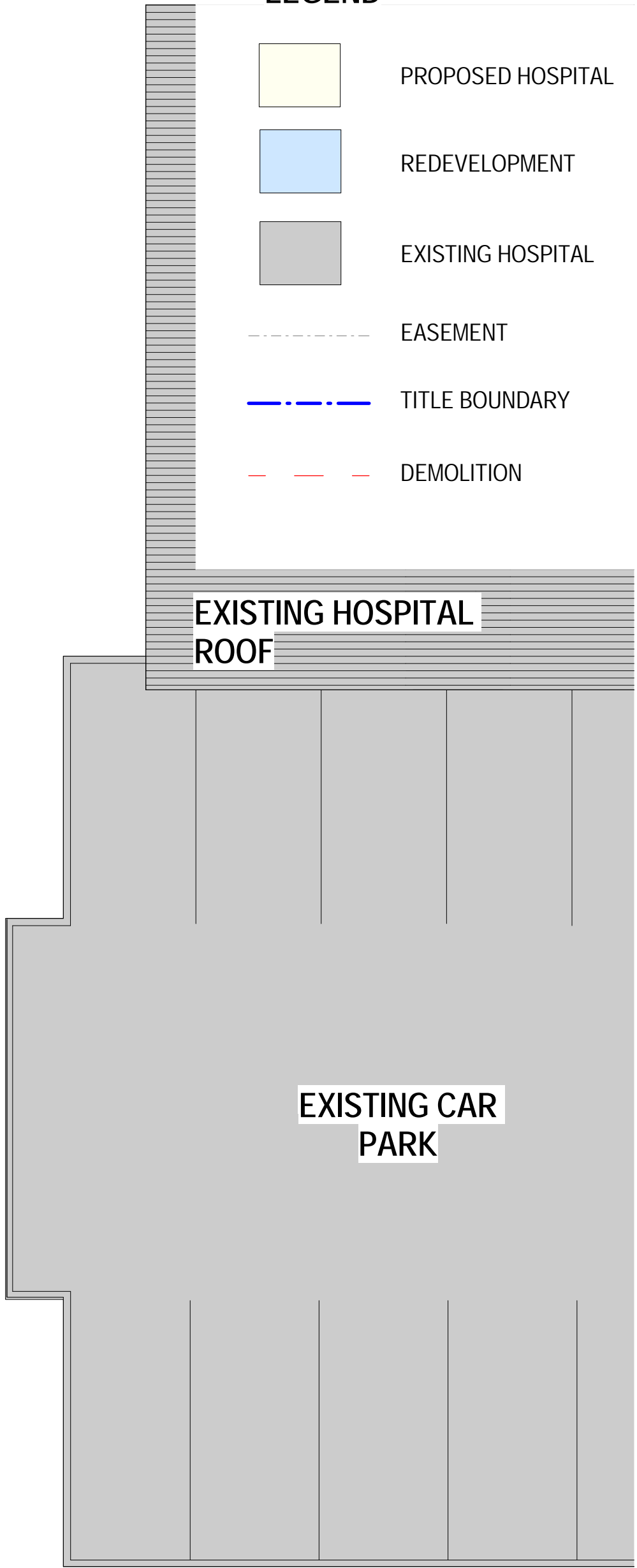
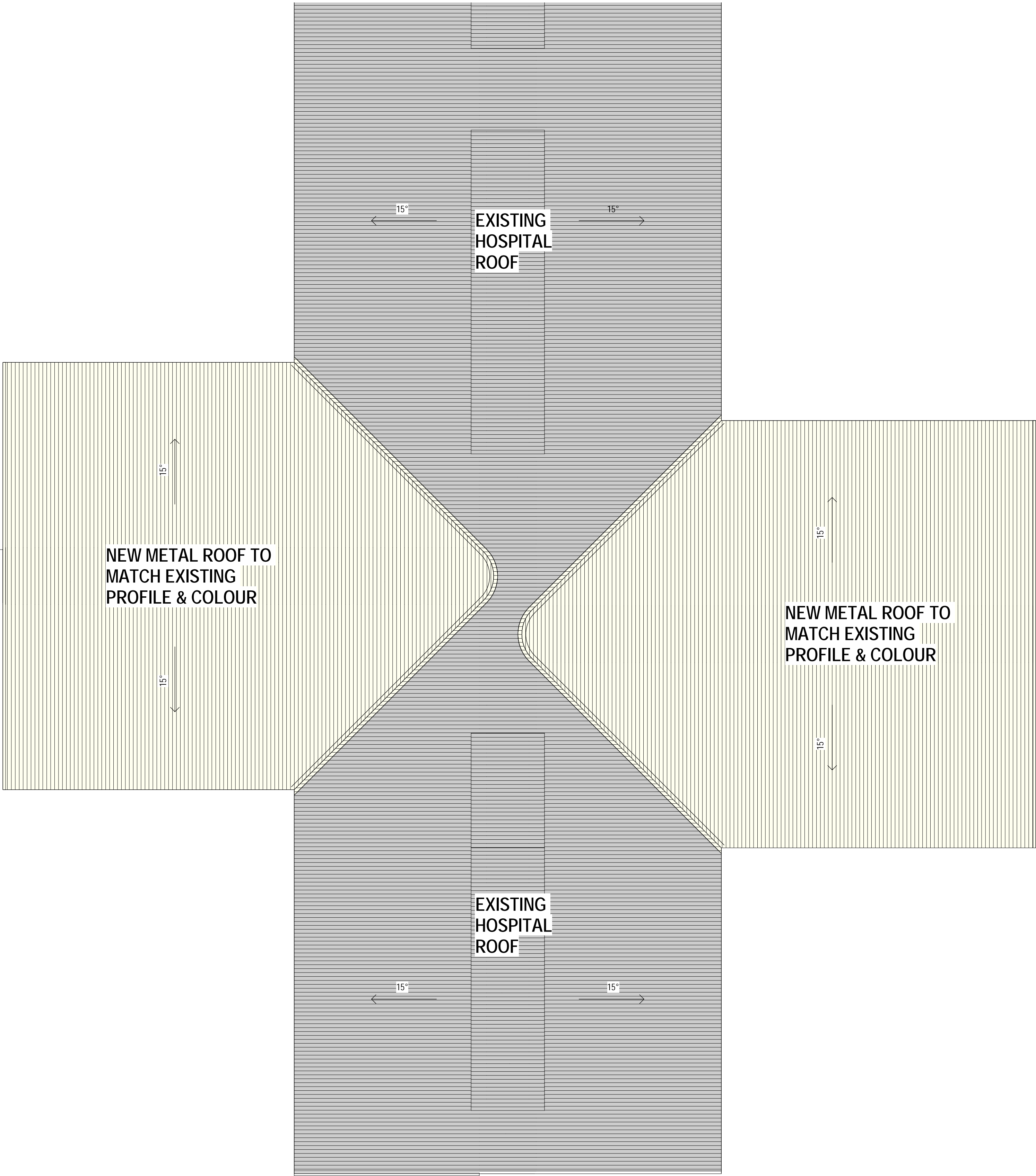
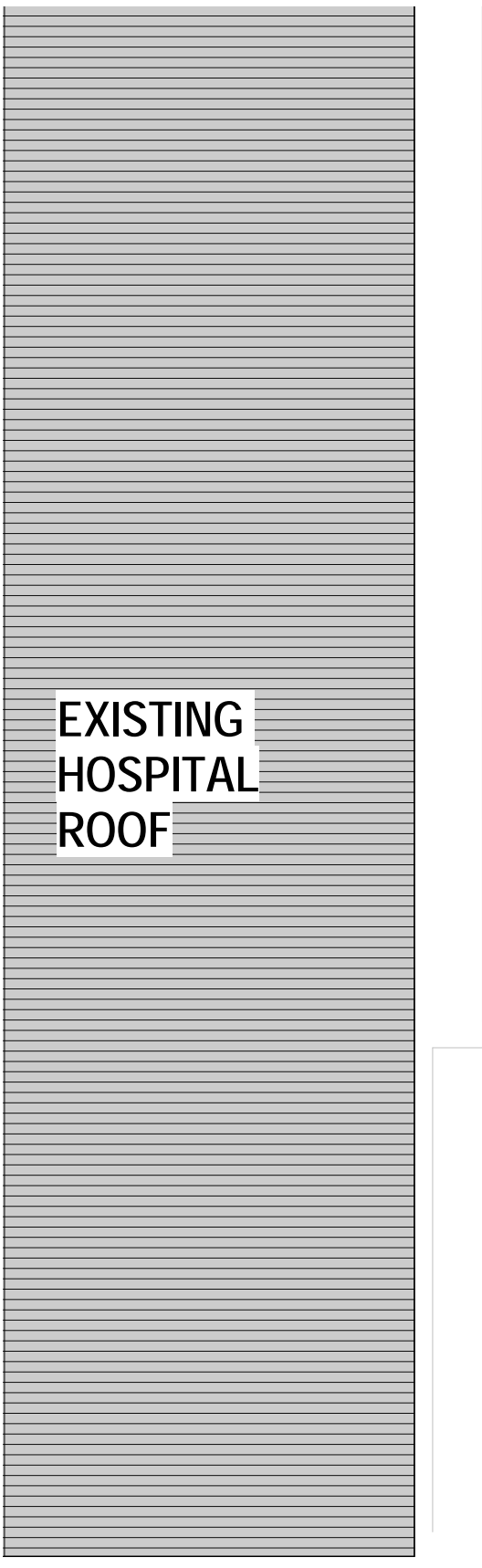




NORTH:

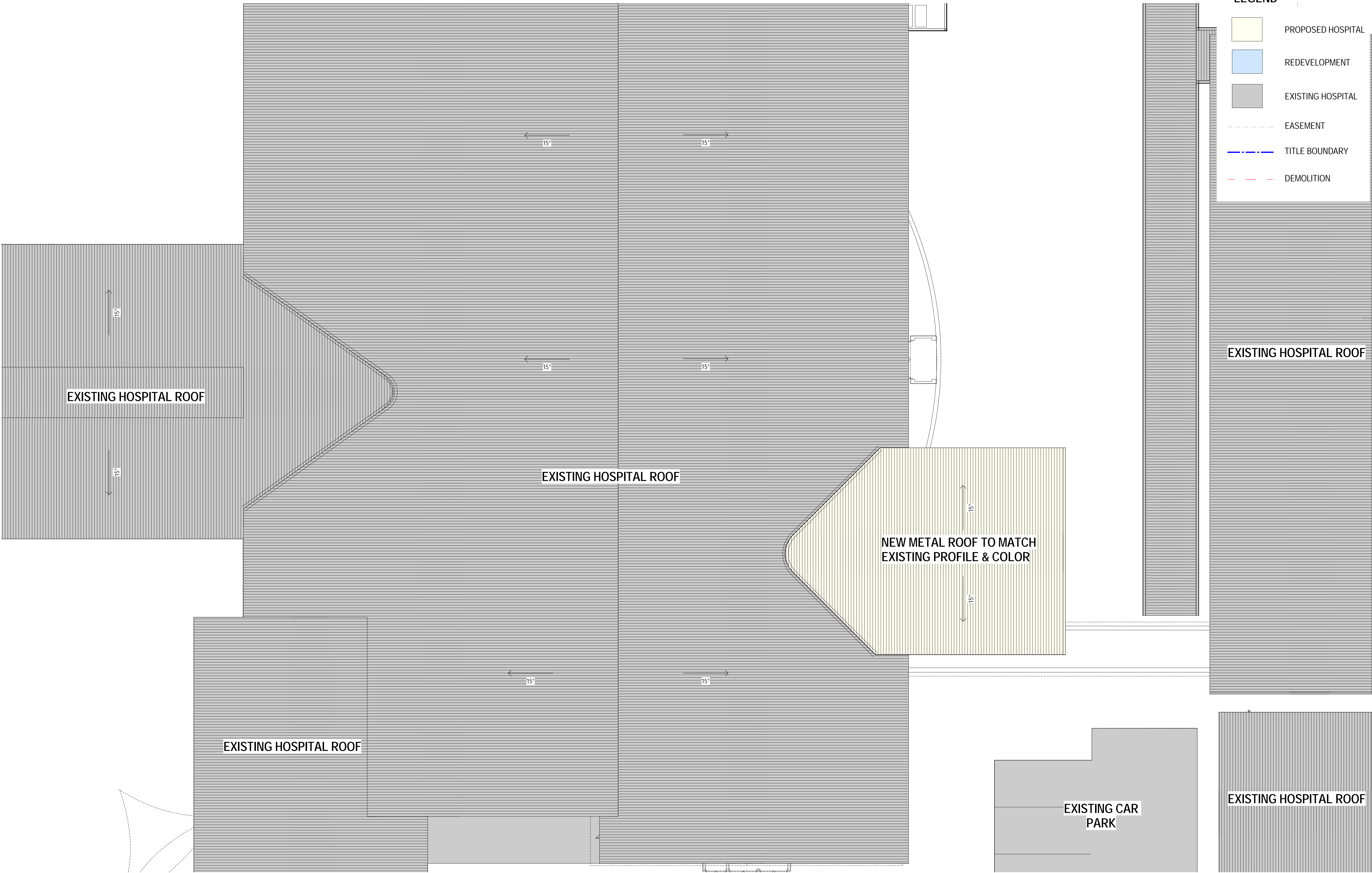
A circular compass rose with a thick black line pointing towards the top-left, indicating North. The circle is divided into four quadrants by a thin black line.

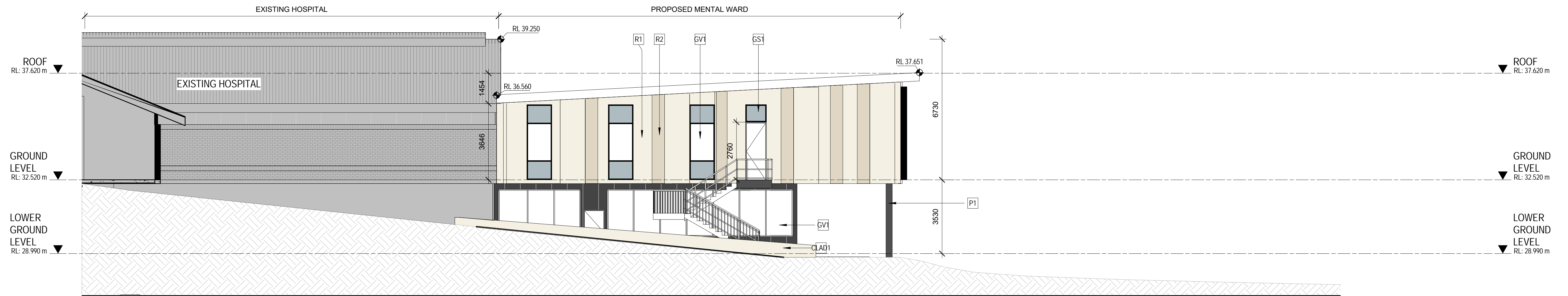




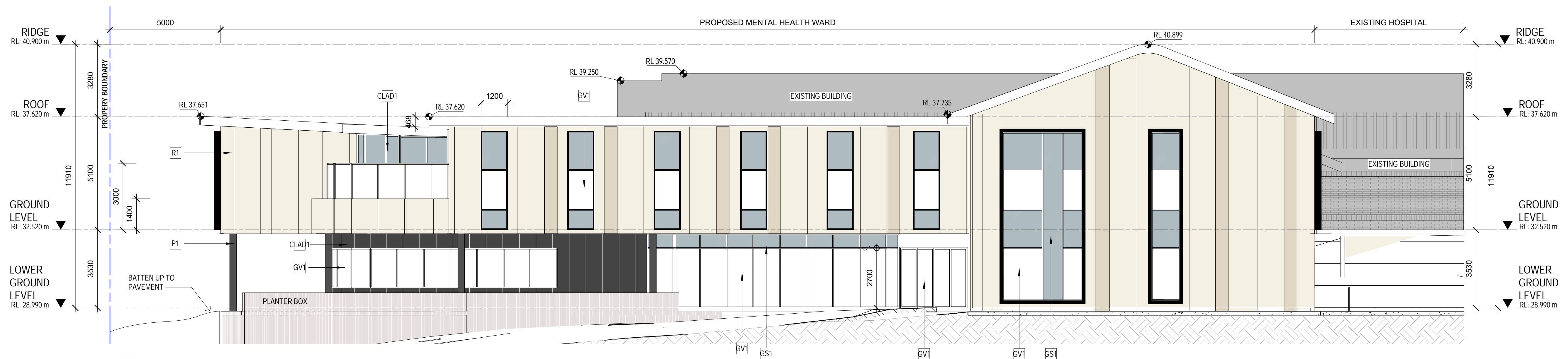
LEGEND

- PROPOSED HOSPITAL
- REDEVELOPMENT
- EXISTING HOSPITAL
- EASEMENT
- TITLE BOUNDARY
- DEMOLITION





1 MENTAL WARD - EAST ELEVATION
DA030 Scale 1:100

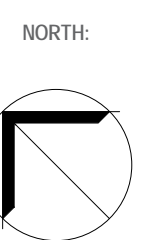
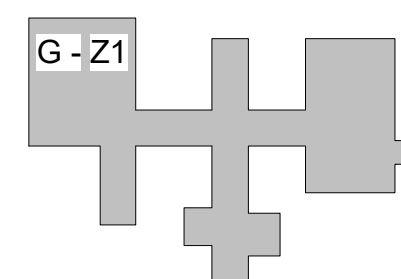


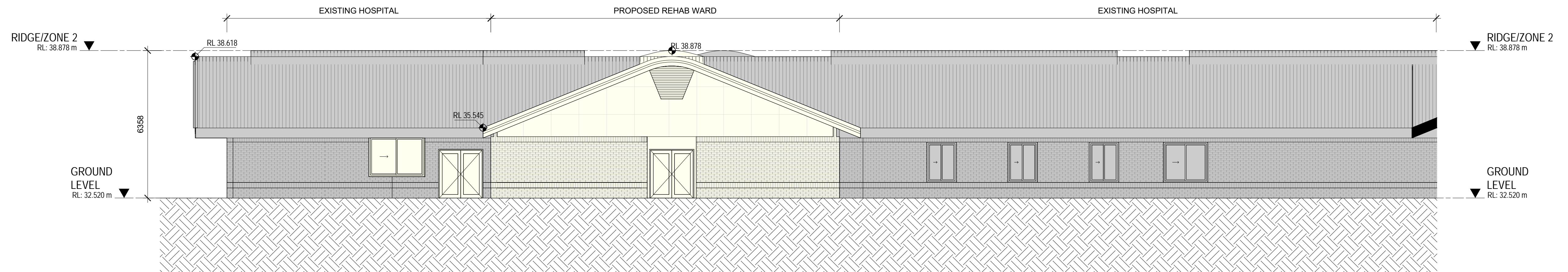
2 MENTAL WARD - WEST ELEVATION
DA031 Scale 1:100



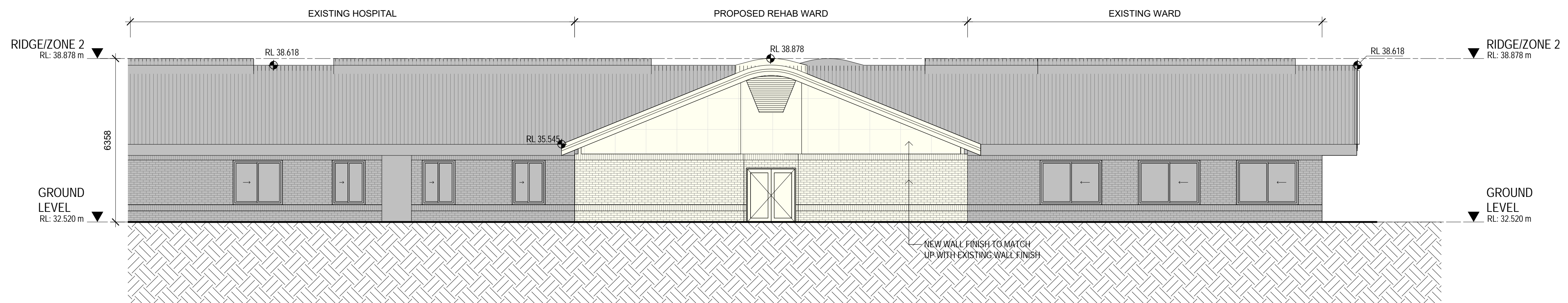
3 MENTAL WARD - NORTH ELEVATION
DA030 Scale 1:100

MATERIAL LEGENDS	
CODE	MATERIAL
CLAD1	CFC SHEET-DARK GREY
GS1	SPANDREL GLASS-GREY TINT
GV1	CLEAR GLASS-GREY TINT
P1	PAINT-DARK GREY
R1	TEXTURED RENDER-LIGHT BEIGE
R2	TEXTURED RENDER-DARK BEIGE

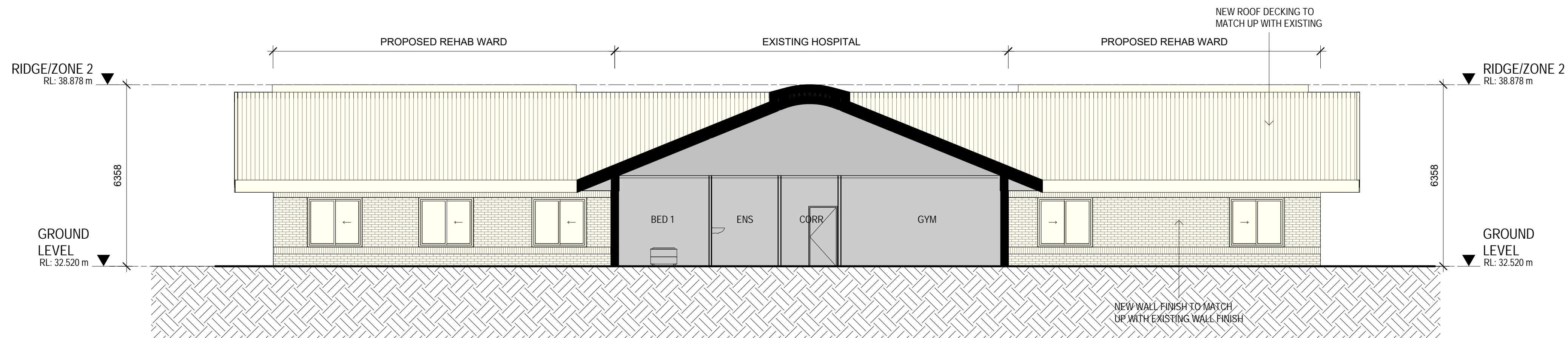




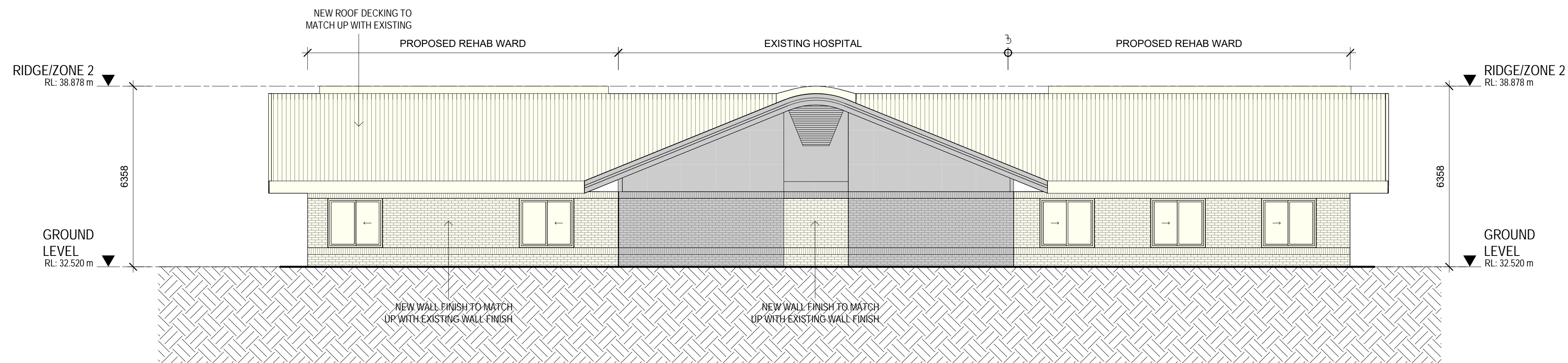
1 REHABILITATION WARD - EAST ELEVATION
DA013 Scale 1 : 100



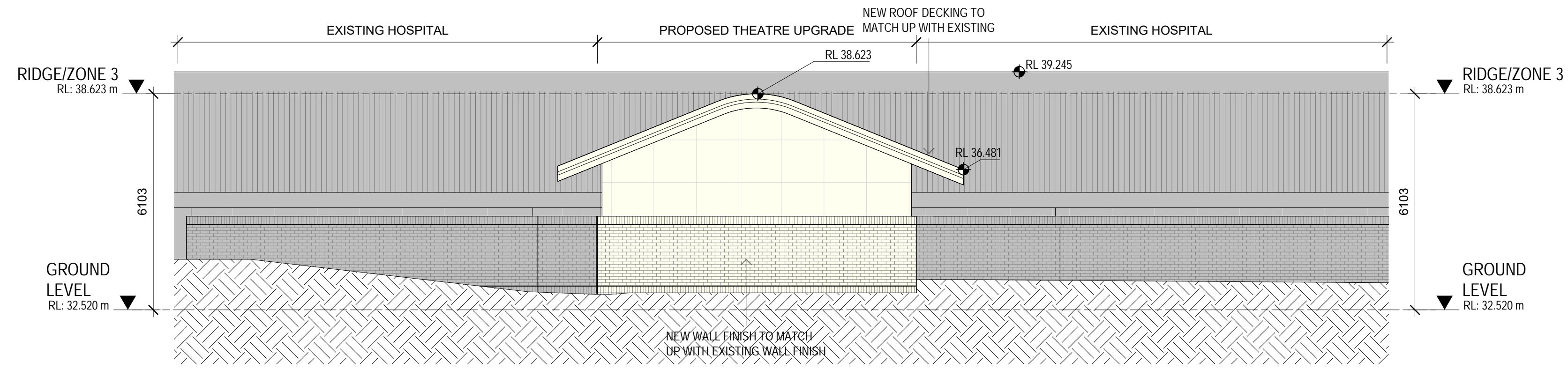
2 REHABILITATION WARD - WEST ELEVATION
DA032 Scale 1 : 100



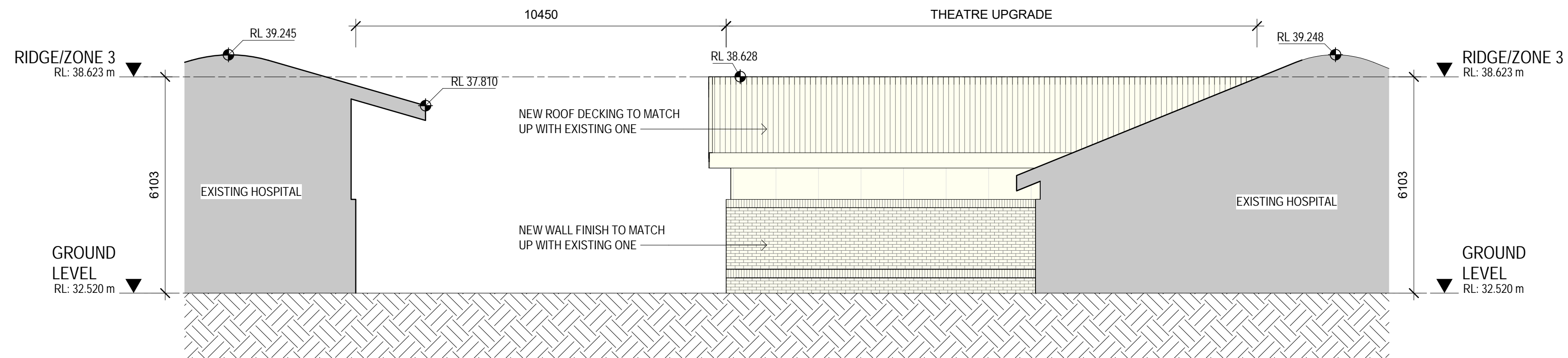
1 REHABILITATION WARD - NORTH ELEVATION
DA032 Scale 1:100



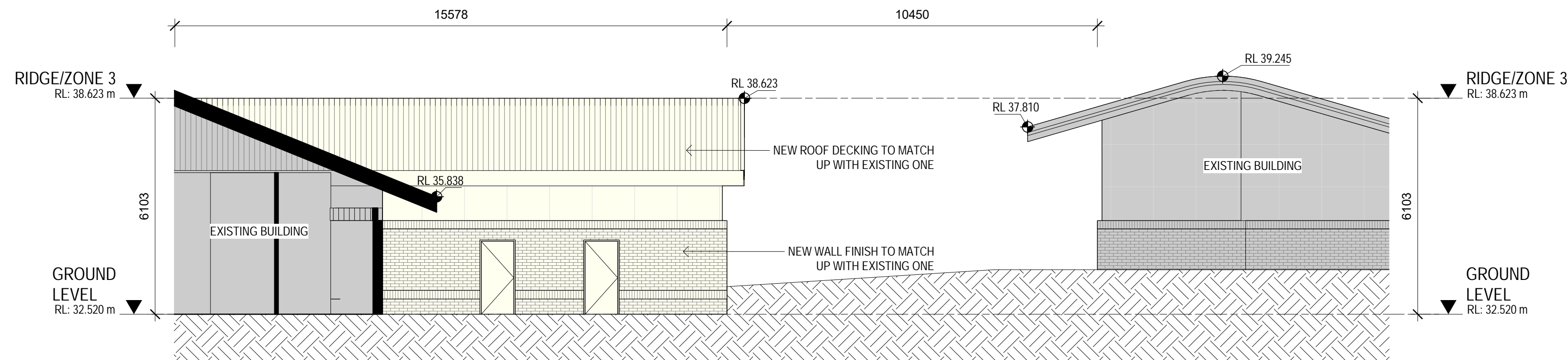
2 REHABILITATION WARD - SOUTH ELEVATION
DA032 Scale 1:100



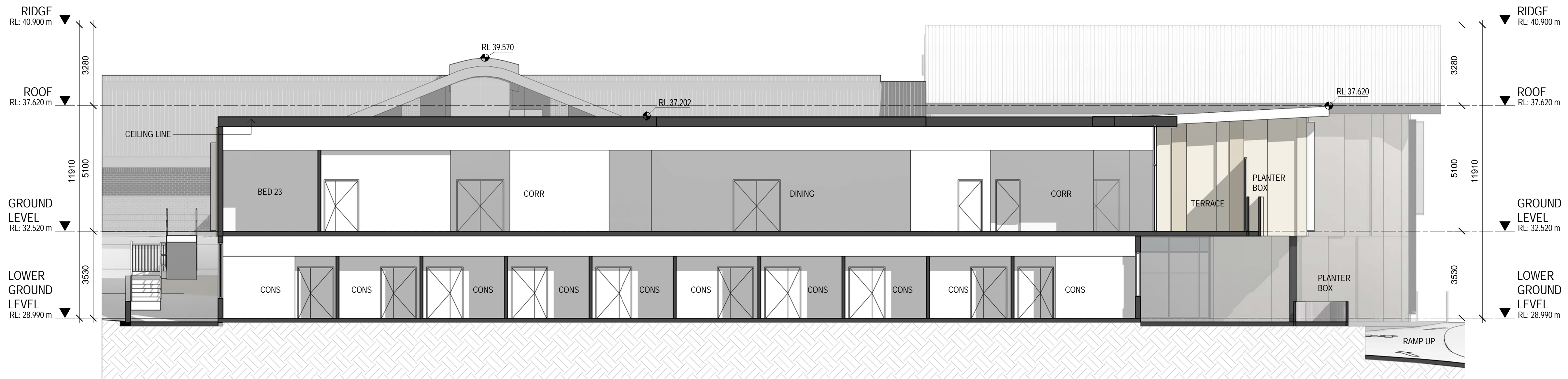
1 THEATRE UPGRADE - EAST ELEVATION
DA033 Scale 1:100



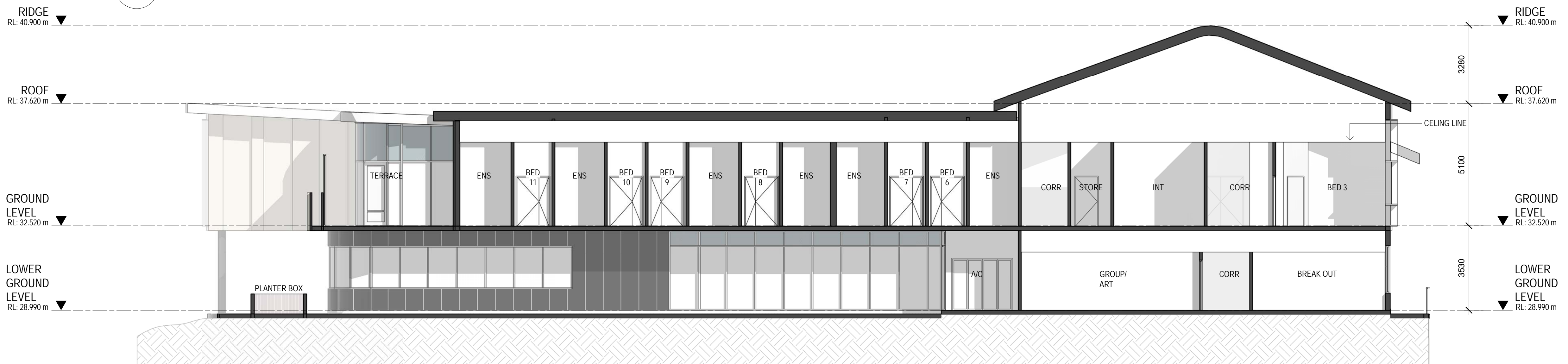
2 THEATRE UPGRADE - NORTH ELEVATION
DA033 Scale 1:100



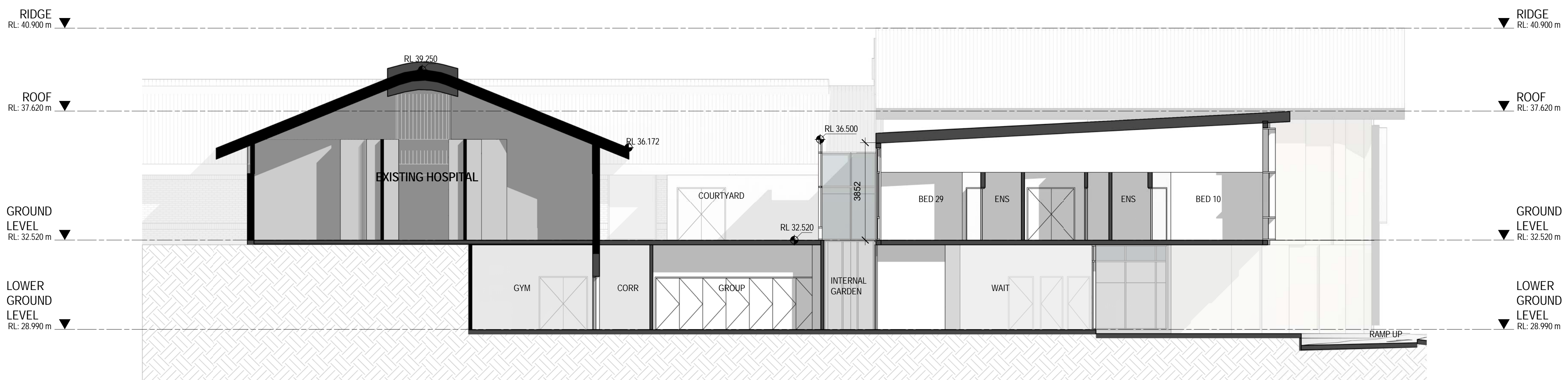
3 THEATRE UPGRADE - WEST ELEVATION
DA033 Scale 1:100



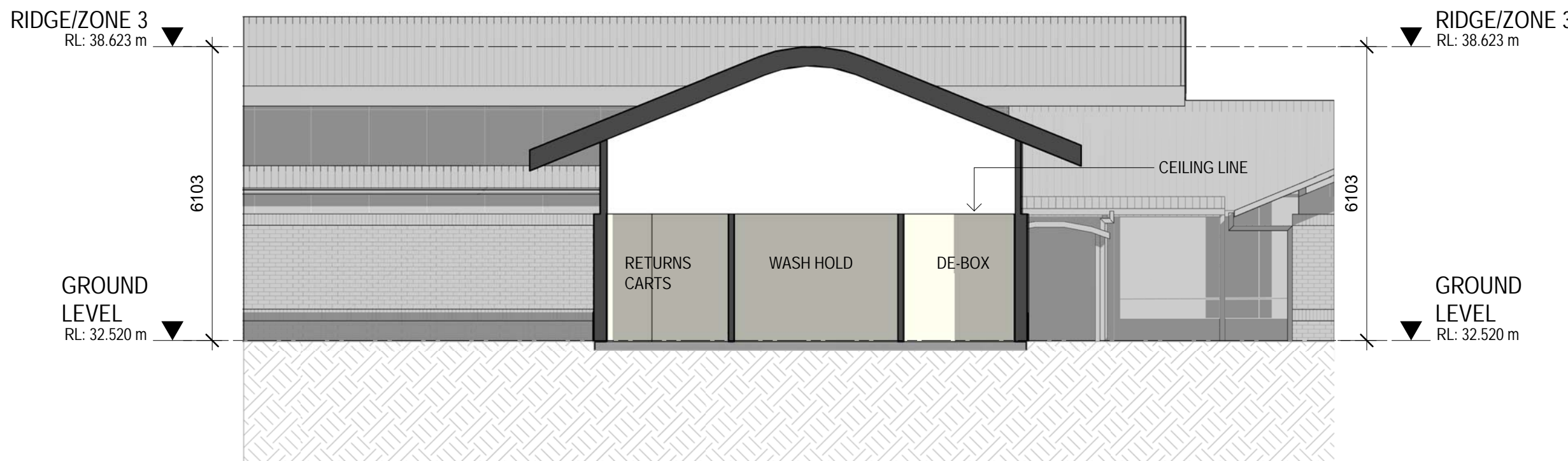
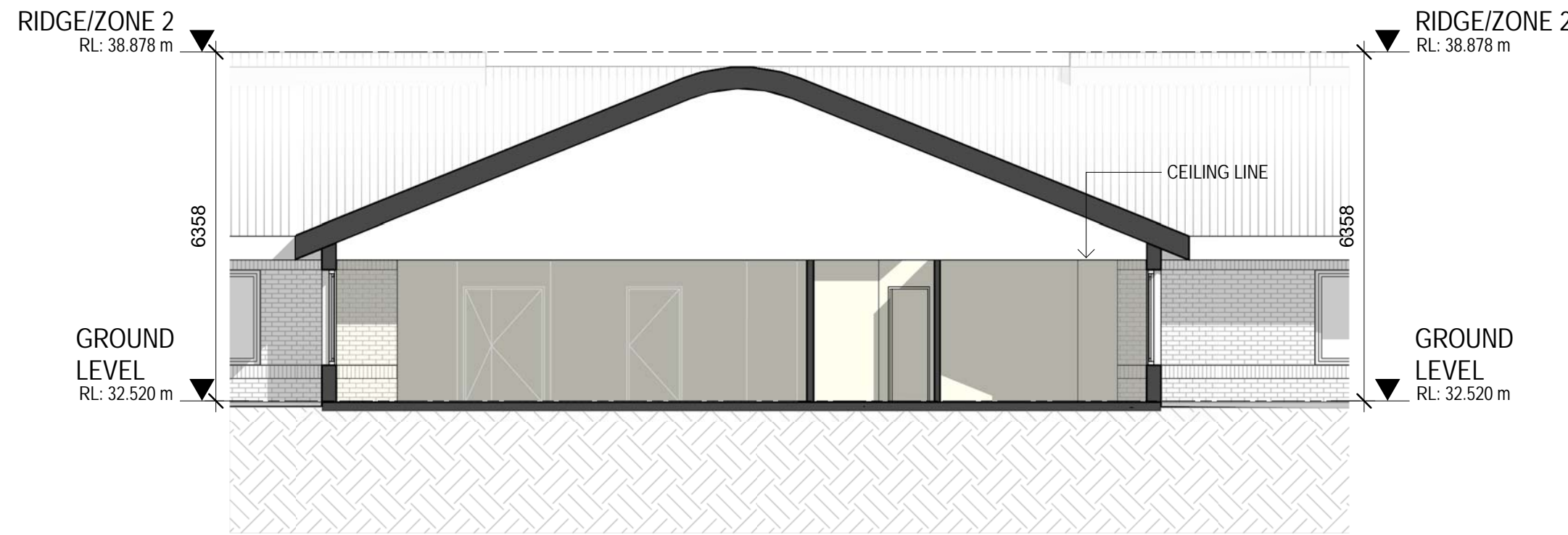
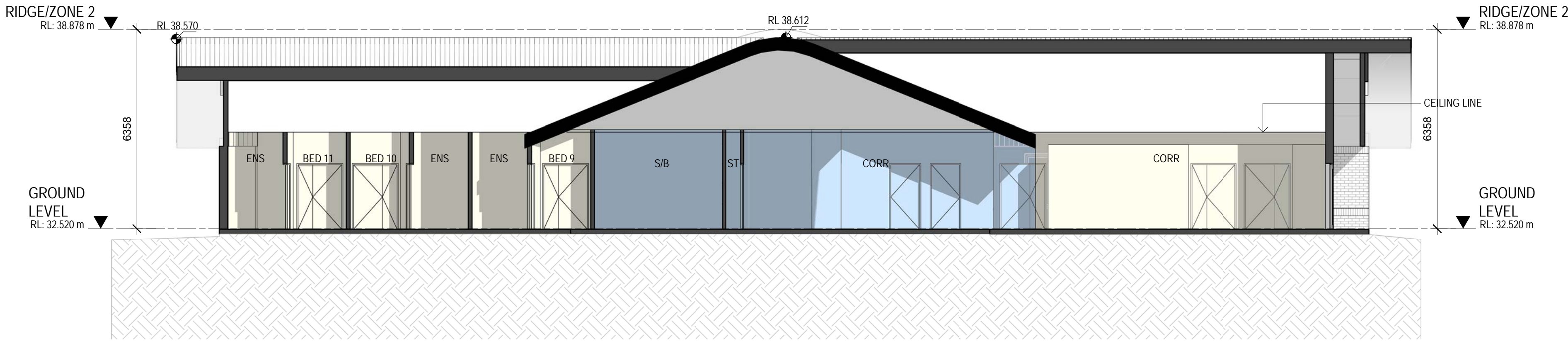
1 SEC A_ZONE 1
DA030 Scale 1:100

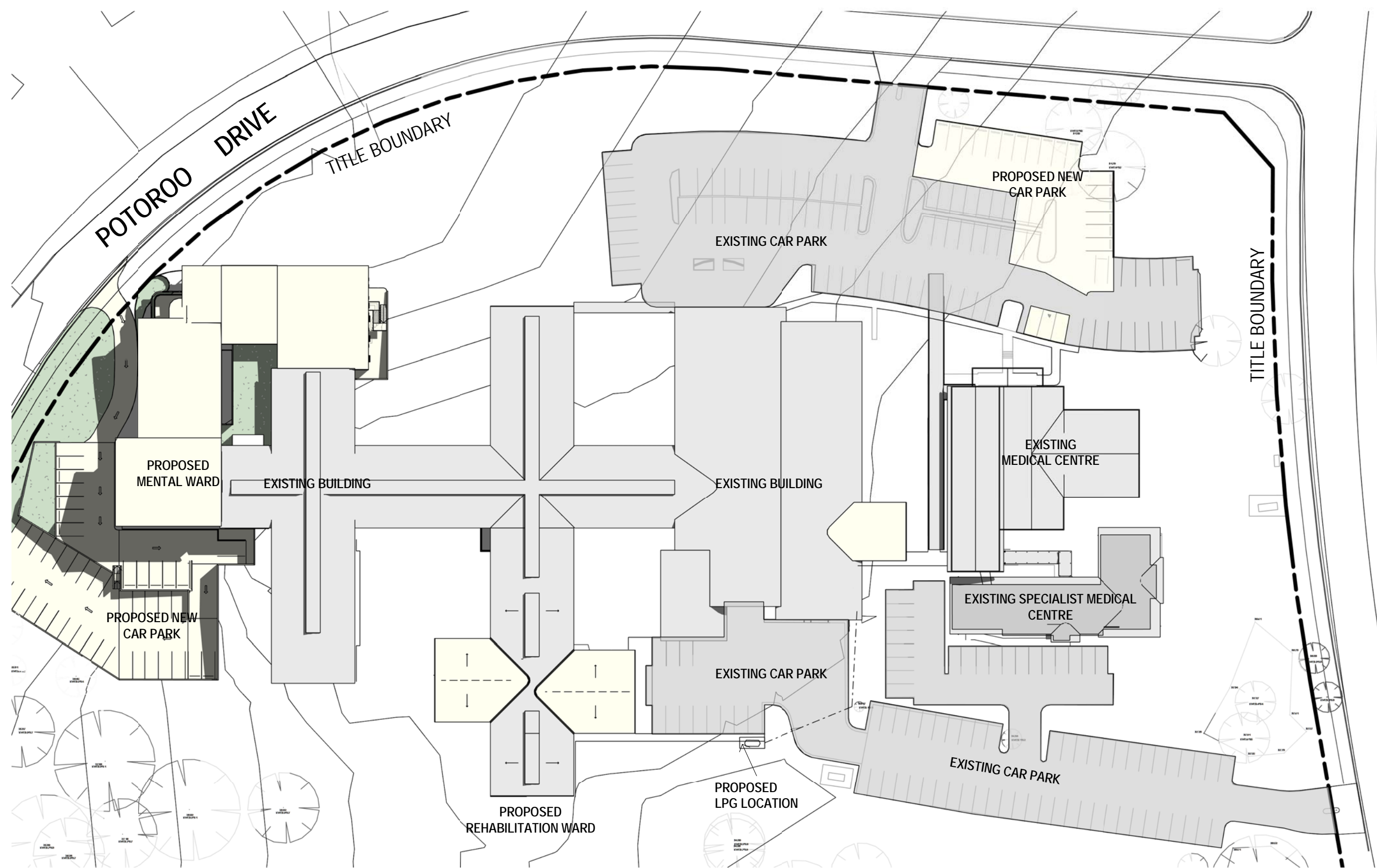


2 SEC B_ZONE 1
DA030 Scale 1:100

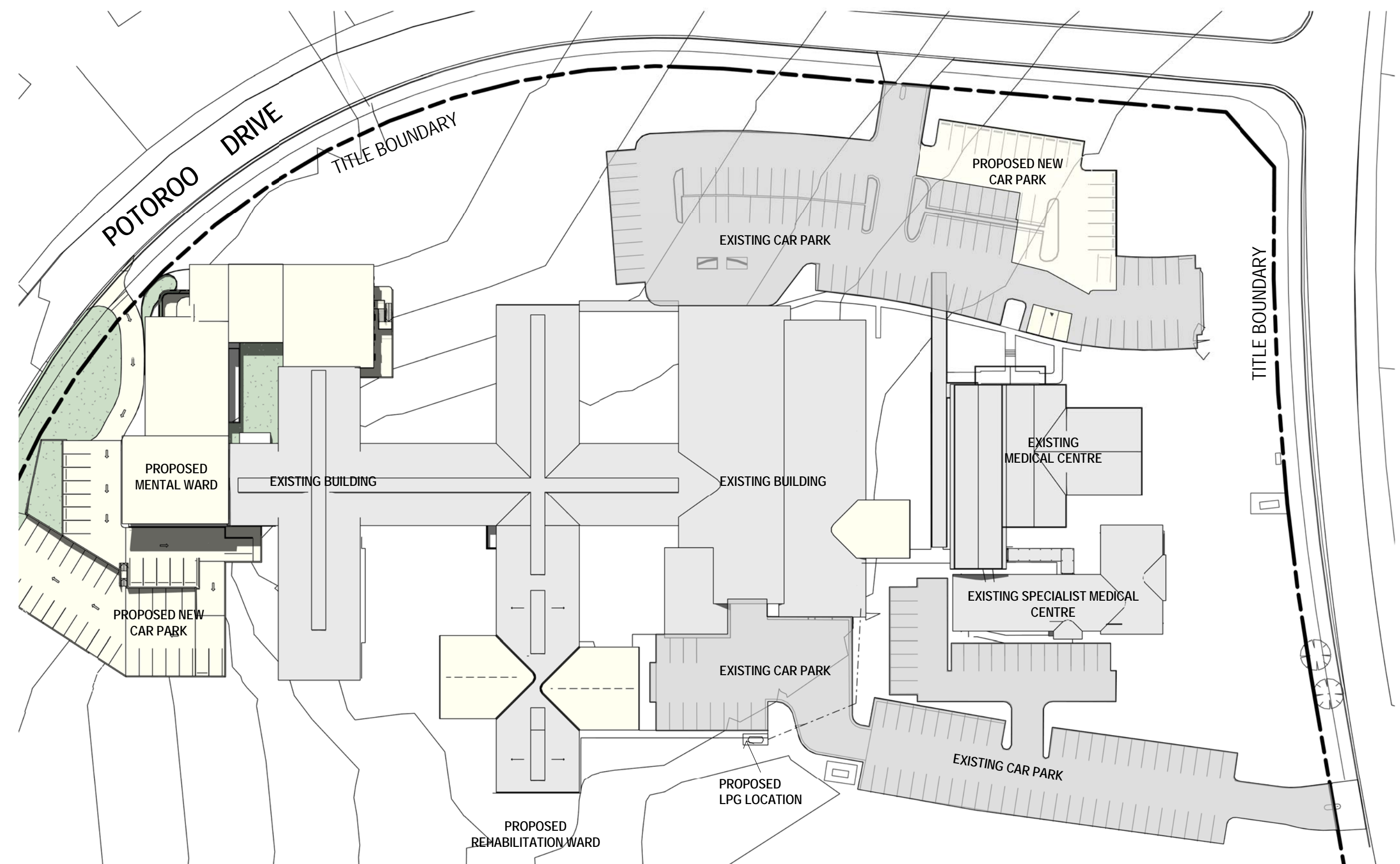


3 SEC C_ZONE 1
DA030 Scale 1:100

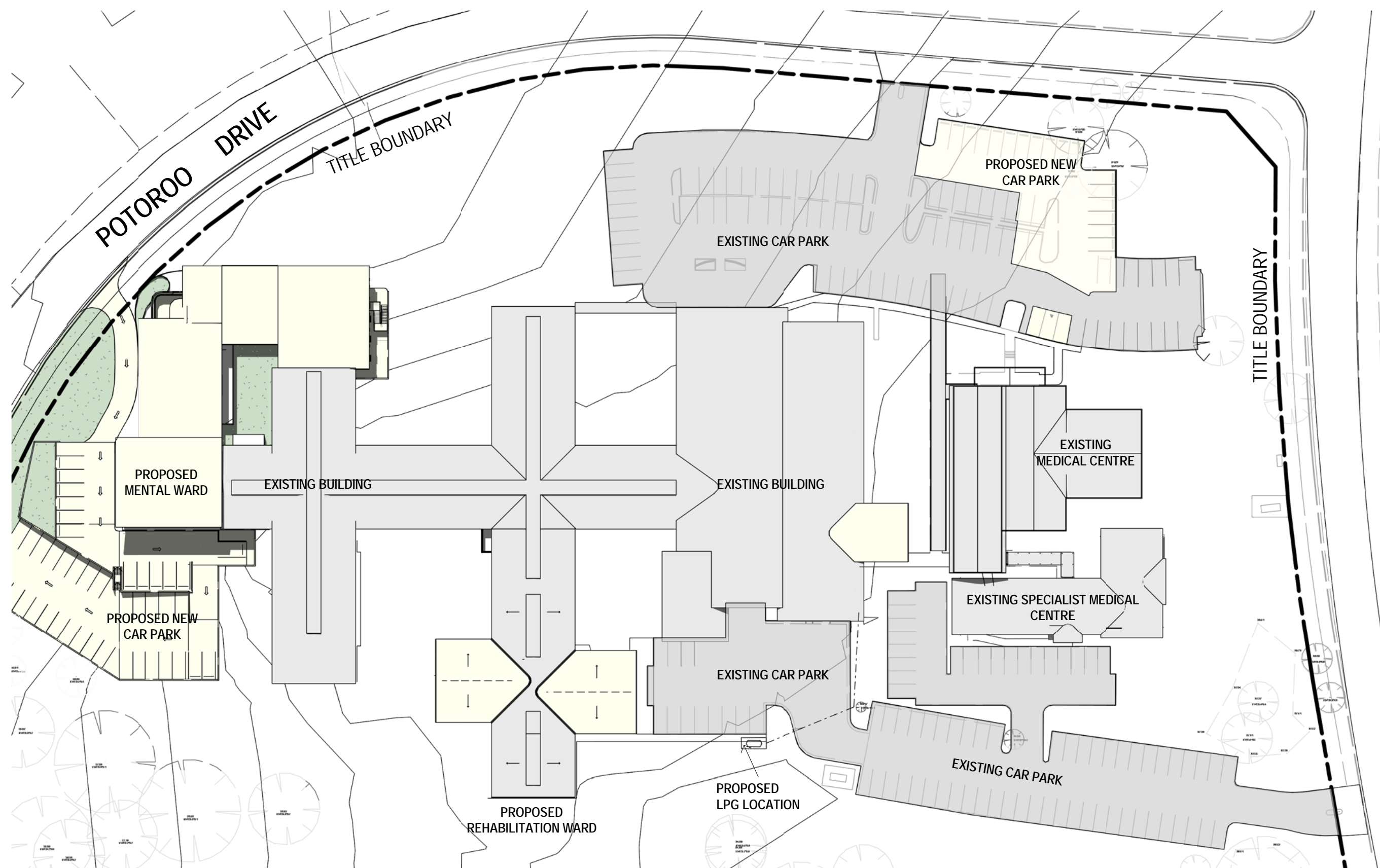




1 SHADOW DIAGRAM - 9AM SEP 21
Scale 1 : 750



3 SHADOW DIAGRAM - 3PM SEP 21
Scale 1 : 750



2 SHADOW DIAGRAM - 12PM SEP 21
Scale 1 : 750



APPENDIX B

Traffic Flow Diagrams

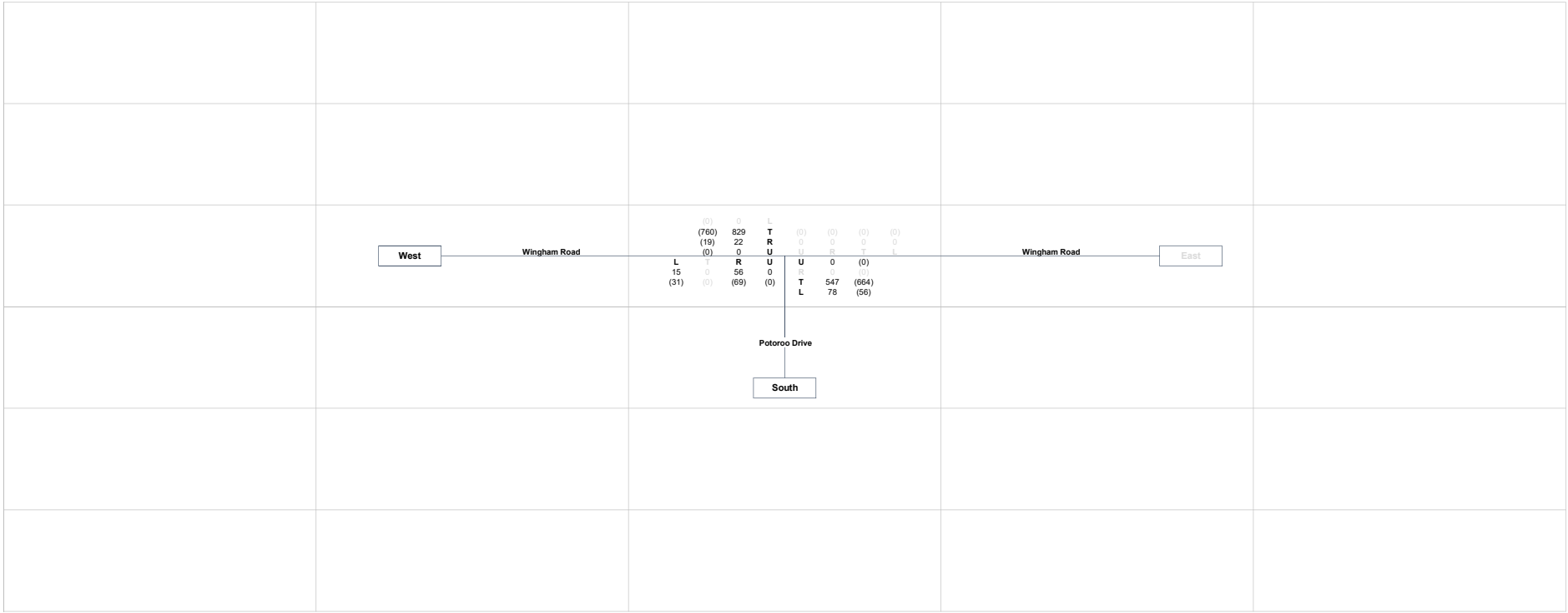


Figure 5
2024 Background with
 631.30566
 Mayo Private Hospital

- L Left Turn
- T Through
- R Right Turn
- U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



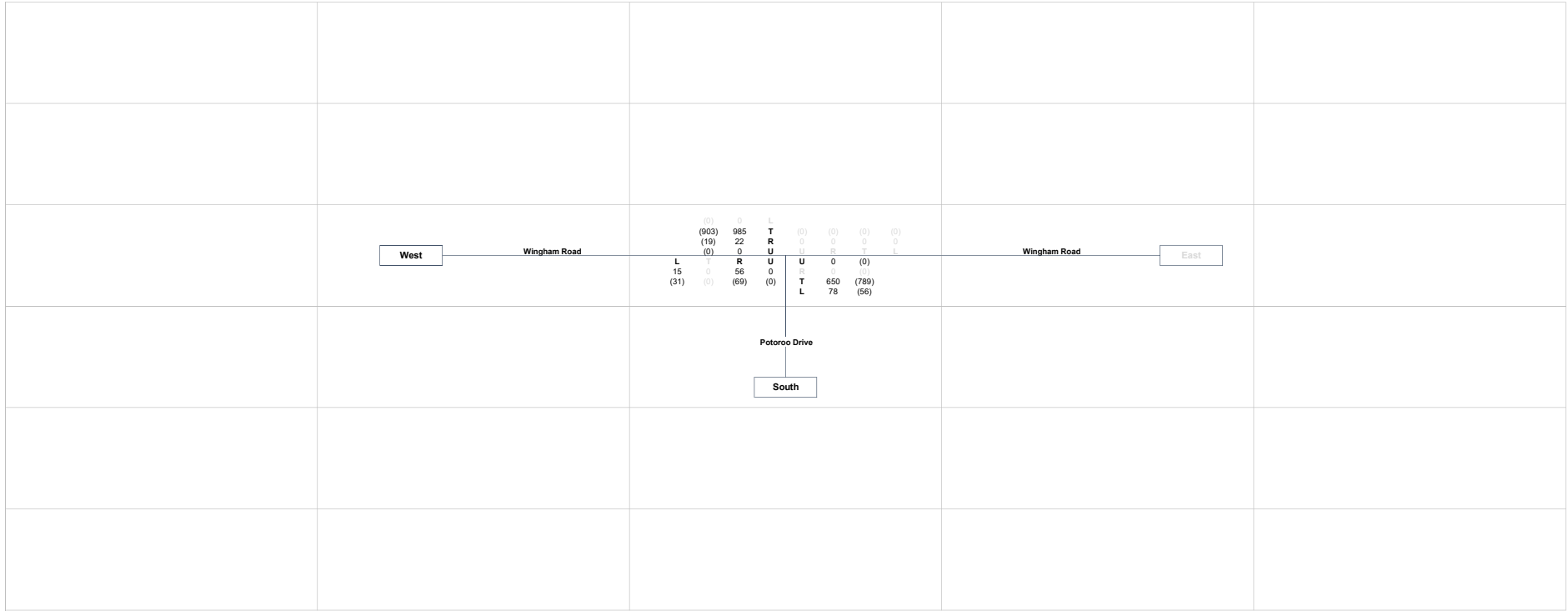


Figure 6
2034 Background with
 631.30566
 Mayo Private Hospital

- L Left Turn
- T Through
- R Right Turn
- U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



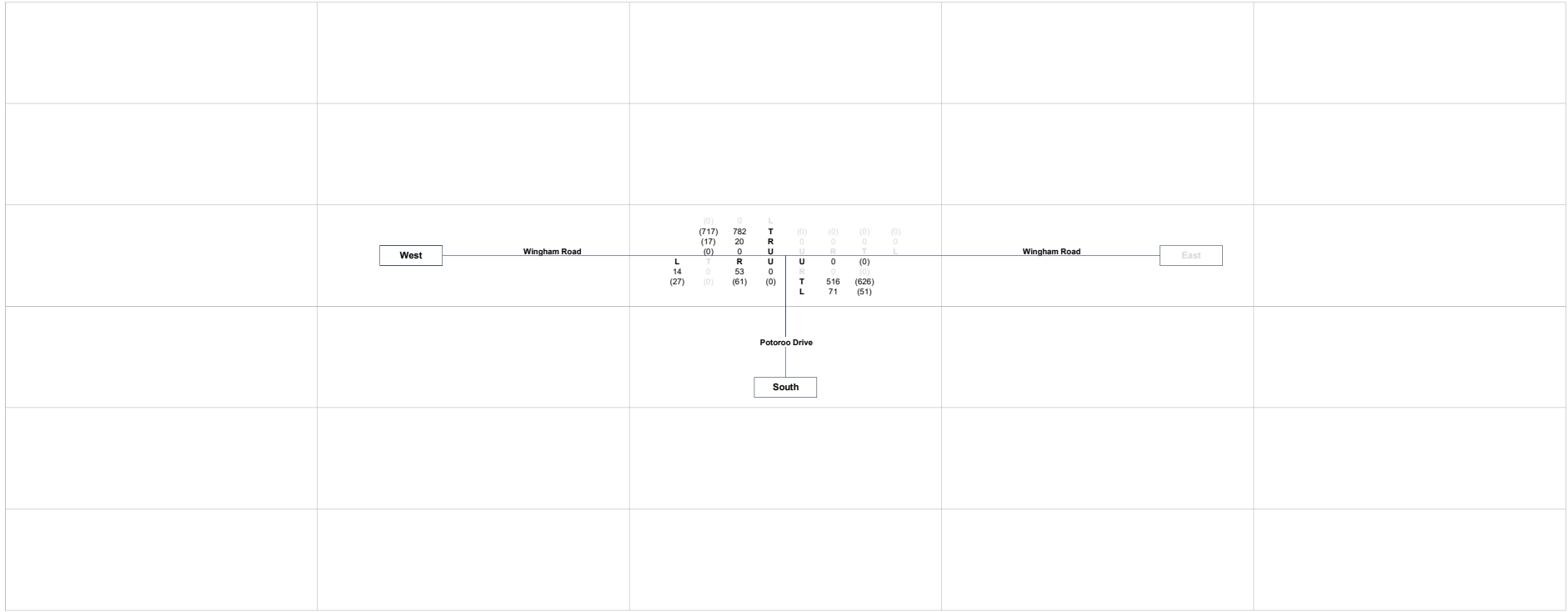


Figure 1
2021 Survey
 631.30566
 Mayo Private Hospital

L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



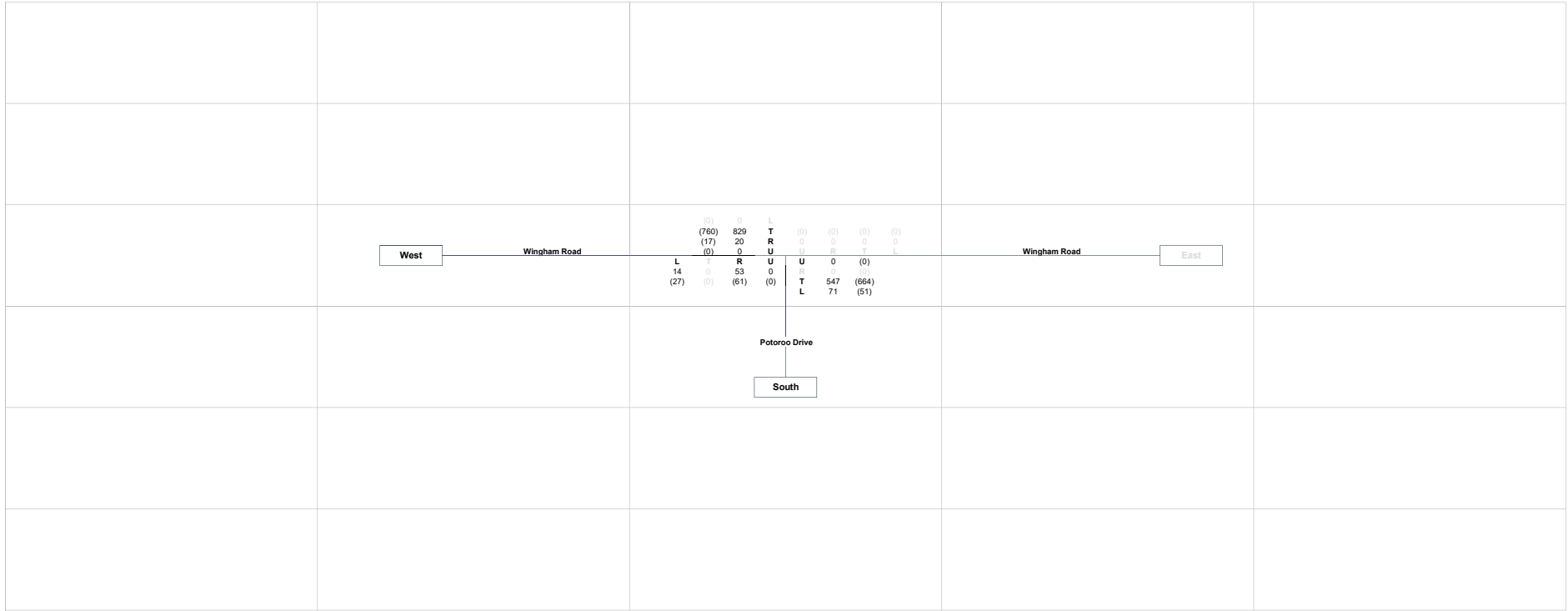


Figure 2
2024 Background Traffic
 631.30566
 Mayo Private Hospital

- L Left Turn
- T Through
- R Right Turn
- U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



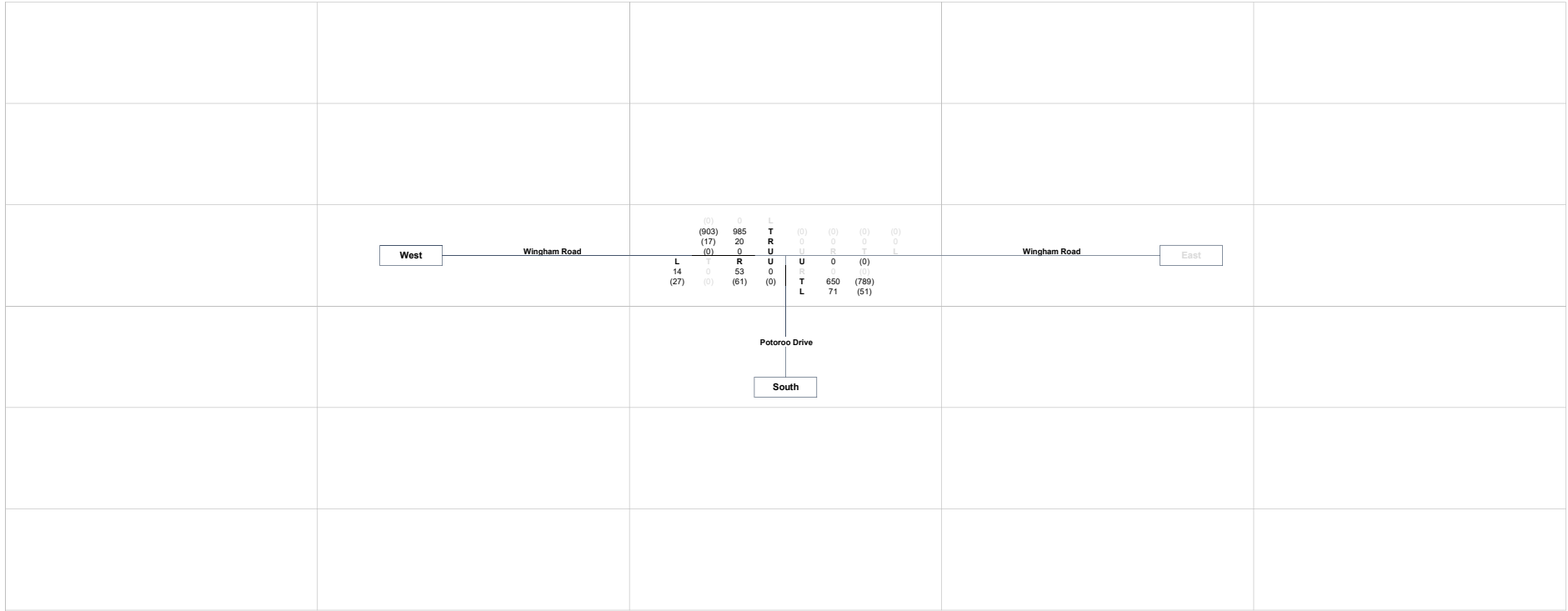


Figure 3
2034 Background Traffic
 631.30566
 Mayo Private Hospital

L Left Turn
 T Through
 R Right Turn
 U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



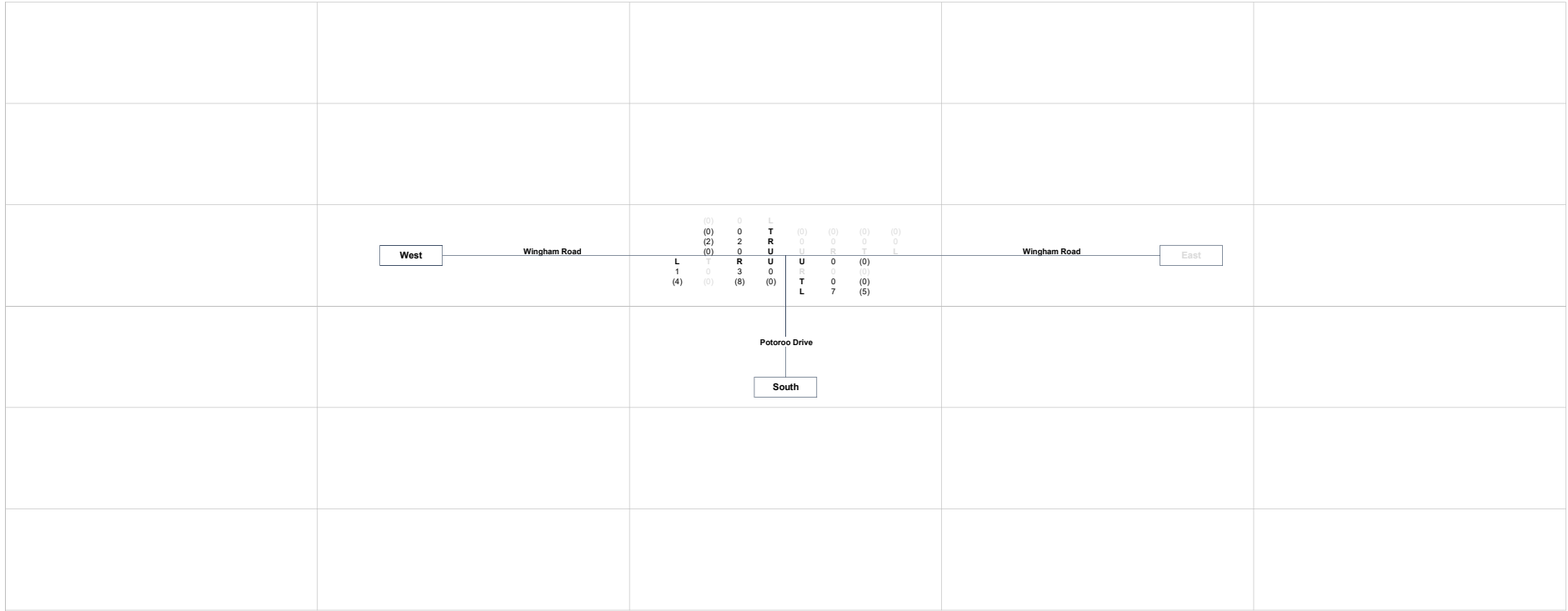


Figure 4
Development Traffic
 631.30566
 Mayo Private Hospital

- L Left Turn
- T Through
- R Right Turn
- U U-Turn

Legend
 00 Weekday AM Peak Hour Volumes
 (00) Weekday PM Peak Hour Volumes
 Subject Site



APPENDIX C

SIDRA Outputs

SITE LAYOUT

 **Site: 001 [2021 AM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

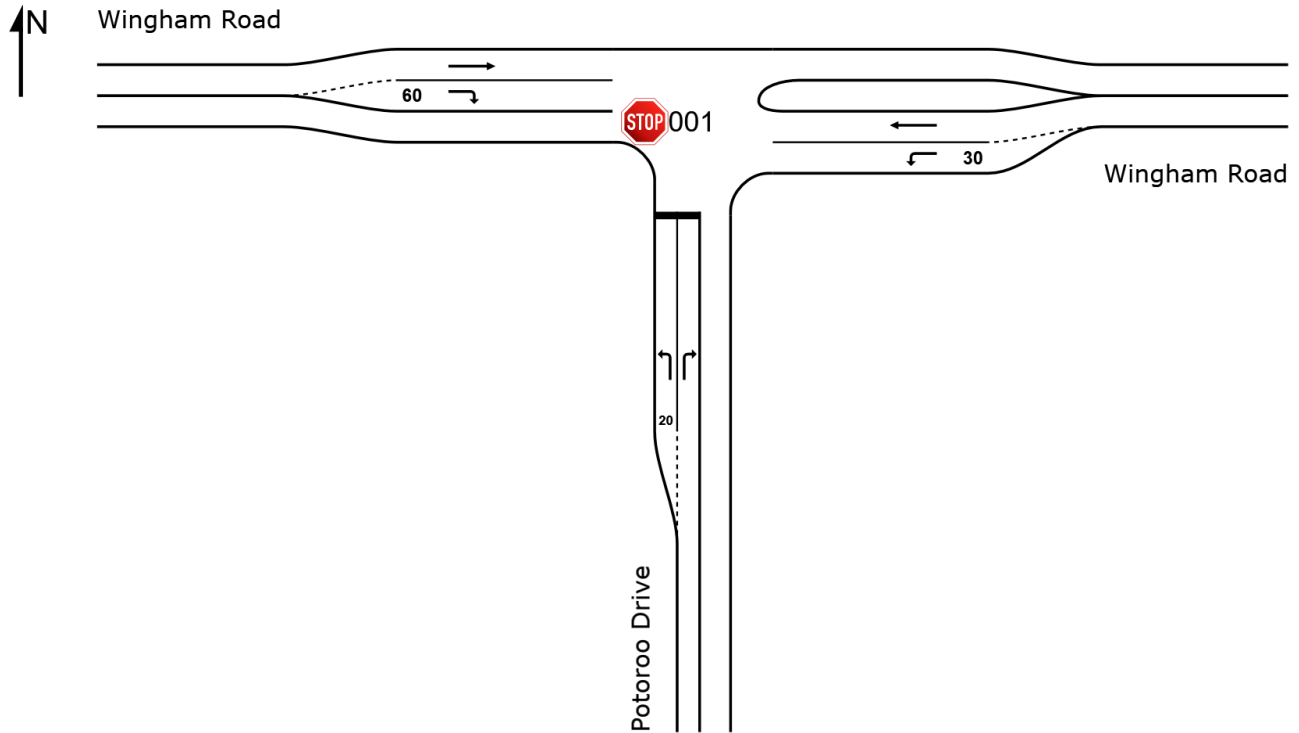
Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: \\au.slr.local\Corporate\Projects-SLR\631-NTLCBD\631.30566.00000 Mayo Alts & Adds\08 Technical Disciplines\01 TA\02 Analysis\03

SIDRA\631.30566-S01-v0.4 WinghamRd_PotorooDr 20220405.sip9

MOVEMENT SUMMARY

 **Site: 001 [2021 AM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Potoroo Drive														
1	L2	14	7.0	15	7.0	0.026	12.4	LOS B	0.0	0.3	0.53	0.93	0.53	49.4
3	R2	53	6.0	56	6.0	0.380	39.2	LOS E	0.5	3.8	0.92	1.05	1.12	36.6
Approach		67	6.2	71	6.2	0.380	33.6	LOS D	0.5	3.8	0.84	1.02	0.99	38.7
East: Wingham Road														
4	L2	71	1.0	75	1.0	0.041	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	516	6.0	543	6.0	0.289	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		587	5.4	618	5.4	0.289	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.0
West: Wingham Road														
11	T1	782	4.0	823	4.0	0.436	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12	R2	20	5.0	21	5.0	0.031	10.1	LOS B	0.0	0.3	0.55	0.75	0.55	50.0
Approach		802	4.0	844	4.0	0.436	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1456	4.7	1533	4.7	0.436	2.1	NA	0.5	3.8	0.05	0.09	0.05	57.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: \\au.slr.local\Corporate\Projects-SLR\631-NTLCBD\631.30566.00000 Mayo Alts & Adds\08 Technical Disciplines\01 TA\02 Analysis\03

SIDRA\631.30566-S01-v0.4 WinghamRd_PotorooDr 20220405.sip9

MOVEMENT SUMMARY

 **Site: 001 [2021 PM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
						v/c	sec							km/h
South: Potoroo Drive														
1	L2	27	4.0	28	4.0	0.062	14.0	LOS B	0.1	0.6	0.62	1.00	0.62	48.5
3	R2	61	2.0	64	2.0	0.453	42.3	LOS E	0.6	4.5	0.93	1.06	1.19	35.5
Approach		88	2.6	93	2.6	0.453	33.6	LOS D	0.6	4.5	0.84	1.04	1.02	38.7
East: Wingham Road														
4	L2	51	2.0	54	2.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
5	T1	626	6.0	659	6.0	0.351	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		677	5.7	713	5.7	0.351	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Wingham Road														
11	T1	717	5.0	755	5.0	0.403	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12	R2	17	6.0	18	6.0	0.032	11.3	LOS B	0.0	0.3	0.60	0.79	0.60	49.2
Approach		734	5.0	773	5.0	0.403	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1499	5.2	1578	5.2	0.453	2.4	NA	0.6	4.5	0.06	0.09	0.07	57.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA\631.30566-S01-v0.4 WinghamRd_PotorooDr 20220405.sip9

MOVEMENT SUMMARY

 **Site: 001 [2024 AM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	14	7.0	15	7.0	0.028	12.9	LOS B	0.0	0.3	0.55	0.94	0.55	49.1
3	R2	53	6.0	56	6.0	0.458	48.4	LOS E	0.6	4.6	0.94	1.06	1.19	33.5
Approach		67	6.2	71	6.2	0.458	41.0	LOS E	0.6	4.6	0.86	1.03	1.06	35.9
East: Wingham Road														
4	L2	71	1.0	75	1.0	0.041	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	547	6.0	576	6.0	0.307	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		618	5.4	651	5.4	0.307	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.0
West: Wingham Road														
11	T1	829	4.0	873	4.0	0.462	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	20	5.0	21	5.0	0.033	10.5	LOS B	0.0	0.3	0.57	0.76	0.57	49.8
Approach		849	4.0	894	4.0	0.462	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1534	4.7	1615	4.7	0.462	2.3	NA	0.6	4.6	0.05	0.08	0.05	57.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2024 PM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	27	4.0	28	4.0	0.067	14.7	LOS B	0.1	0.6	0.65	1.00	0.65	48.1
3	R2	61	2.0	64	2.0	0.547	53.6	LOS F	0.8	5.5	0.95	1.08	1.29	32.0
Approach		88	2.6	93	2.6	0.547	41.7	LOS E	0.8	5.5	0.86	1.06	1.10	35.6
East: Wingham Road														
4	L2	51	2.0	54	2.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
5	T1	664	6.0	699	6.0	0.372	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		715	5.7	753	5.7	0.372	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.3
West: Wingham Road														
11	T1	760	5.0	800	5.0	0.427	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12	R2	17	6.0	18	6.0	0.034	11.8	LOS B	0.0	0.3	0.63	0.81	0.63	48.9
Approach		777	5.0	818	5.0	0.427	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1580	5.2	1663	5.2	0.547	2.8	NA	0.8	5.5	0.05	0.09	0.07	57.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA\631.30566-S01-v0.4 WinghamRd_PotorooDr 20220405.sip9

MOVEMENT SUMMARY

 **Site: 001 [2034 AM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	14	7.0	15	7.0	0.035	14.6	LOS B	0.0	0.3	0.64	0.98	0.64	48.1
3	R2	53	6.0	56	6.0	0.923	177.5	LOS F	1.7	12.4	1.00	1.26	2.14	15.4
Approach		67	6.2	71	6.2	0.923	143.5	LOS F	1.7	12.4	0.92	1.20	1.83	17.9
East: Wingham Road														
4	L2	71	1.0	75	1.0	0.041	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	650	6.0	684	6.0	0.365	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		721	5.5	759	5.5	0.365	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.1
West: Wingham Road														
11	T1	985	4.0	1037	4.0	0.550	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
12	R2	20	5.0	21	5.0	0.040	11.8	LOS B	0.1	0.4	0.63	0.82	0.63	48.9
Approach		1005	4.0	1058	4.0	0.550	0.5	NA	0.1	0.4	0.01	0.02	0.01	59.2
All Vehicles		1793	4.7	1887	4.7	0.923	5.9	NA	1.7	12.4	0.04	0.08	0.08	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2034 PM BG (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	27	4.0	28	4.0	0.090	17.9	LOS C	0.1	0.8	0.75	1.00	0.75	46.3
3	R2	61	2.0	64	2.0	1.094	263.2	LOS F	3.3	23.5	1.00	1.54	3.42	11.1
Approach		88	2.6	93	2.6	1.094	187.9	LOS F	3.3	23.5	0.92	1.37	2.60	14.5
East: Wingham Road														
4	L2	51	2.0	54	2.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
5	T1	789	6.0	831	6.0	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		840	5.8	884	5.8	0.443	0.5	NA	0.0	0.0	0.00	0.03	0.00	59.3
West: Wingham Road														
11	T1	903	5.0	951	5.0	0.508	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	17	6.0	18	6.0	0.044	14.1	LOS B	0.1	0.4	0.72	0.90	0.72	47.5
Approach		920	5.0	968	5.0	0.508	0.5	NA	0.1	0.4	0.01	0.02	0.01	59.3
All Vehicles		1848	5.2	1945	5.2	1.094	9.4	NA	3.3	23.5	0.05	0.09	0.13	51.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2024 AM BG+D (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	15	7.0	16	7.0	0.030	12.9	LOS B	0.0	0.3	0.55	0.94	0.55	49.1
3	R2	56	6.0	59	6.0	0.489	50.2	LOS F	0.7	5.0	0.95	1.07	1.23	33.0
Approach		71	6.2	75	6.2	0.489	42.3	LOS E	0.7	5.0	0.87	1.04	1.08	35.4
East: Wingham Road														
4	L2	78	1.0	82	1.0	0.045	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	547	6.0	576	6.0	0.307	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		625	5.4	658	5.4	0.307	0.8	NA	0.0	0.0	0.00	0.07	0.00	59.0
West: Wingham Road														
11	T1	829	4.0	873	4.0	0.463	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	22	5.0	23	5.0	0.037	10.6	LOS B	0.1	0.4	0.57	0.77	0.57	49.7
Approach		851	4.0	896	4.0	0.463	0.5	NA	0.1	0.4	0.01	0.02	0.01	59.3
All Vehicles		1547	4.7	1628	4.7	0.489	2.5	NA	0.7	5.0	0.05	0.09	0.06	57.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2024 PM BG+D (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	31	4.0	33	4.0	0.077	14.8	LOS B	0.1	0.7	0.66	1.00	0.66	48.0
3	R2	69	2.0	73	2.0	0.624	58.9	LOS F	0.9	6.6	0.96	1.11	1.41	30.6
Approach		100	2.6	105	2.6	0.624	45.2	LOS E	0.9	6.6	0.87	1.07	1.18	34.5
East: Wingham Road														
4	L2	56	2.0	59	2.0	0.032	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
5	T1	664	6.0	699	6.0	0.372	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		720	5.7	758	5.7	0.372	0.6	NA	0.0	0.0	0.00	0.04	0.00	59.2
West: Wingham Road														
11	T1	760	5.0	800	5.0	0.428	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12	R2	19	6.0	20	6.0	0.038	11.9	LOS B	0.1	0.4	0.64	0.82	0.64	48.8
Approach		779	5.0	820	5.0	0.428	0.4	NA	0.1	0.4	0.02	0.02	0.02	59.4
All Vehicles		1599	5.2	1683	5.2	0.624	3.3	NA	0.9	6.6	0.06	0.10	0.08	56.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2034 AM BG+D (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	15	7.0	16	7.0	0.037	14.7	LOS B	0.0	0.4	0.64	0.98	0.64	48.1
3	R2	56	6.0	59	6.0	0.986	207.2	LOS F	2.1	15.7	1.00	1.35	2.55	13.7
Approach		71	6.2	75	6.2	0.986	166.5	LOS F	2.1	15.7	0.92	1.27	2.15	16.1
East: Wingham Road														
4	L2	78	1.0	82	1.0	0.045	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
5	T1	650	6.0	684	6.0	0.365	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		728	5.5	766	5.5	0.365	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
West: Wingham Road														
11	T1	985	4.0	1037	4.0	0.550	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
12	R2	22	5.0	23	5.0	0.044	11.9	LOS B	0.1	0.5	0.64	0.83	0.64	48.9
Approach		1007	4.0	1060	4.0	0.550	0.5	NA	0.1	0.5	0.01	0.02	0.01	59.2
All Vehicles		1806	4.7	1901	4.7	0.986	7.1	NA	2.1	15.7	0.04	0.09	0.09	53.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2034 PM BG+D (Site Folder: General)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	31	4.0	33	4.0	0.103	18.0	LOS C	0.1	0.9	0.75	1.00	0.75	46.2
3	R2	69	2.0	73	2.0	1.249	364.5	LOS F	5.4	38.8	1.00	1.83	4.75	8.4
Approach		100	2.6	105	2.6	1.249	257.1	LOS F	5.4	38.8	0.92	1.58	3.51	11.2
East: Wingham Road														
4	L2	56	2.0	59	2.0	0.032	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.5
5	T1	789	6.0	831	6.0	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		845	5.7	889	5.7	0.443	0.5	NA	0.0	0.0	0.00	0.04	0.00	59.2
West: Wingham Road														
11	T1	903	5.0	951	5.0	0.506	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	19	6.0	20	6.0	0.049	14.2	LOS B	0.1	0.5	0.72	0.90	0.72	47.4
Approach		922	5.0	971	5.0	0.506	0.5	NA	0.1	0.5	0.01	0.02	0.01	59.3
All Vehicles		1867	5.2	1965	5.2	1.249	14.3	NA	5.4	38.8	0.06	0.11	0.20	48.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SITE LAYOUT

 **Site: 001 [2024 AM BG+D (Site Folder: Upgraded Layout)]**

Wingham Road / Potoroo Drive

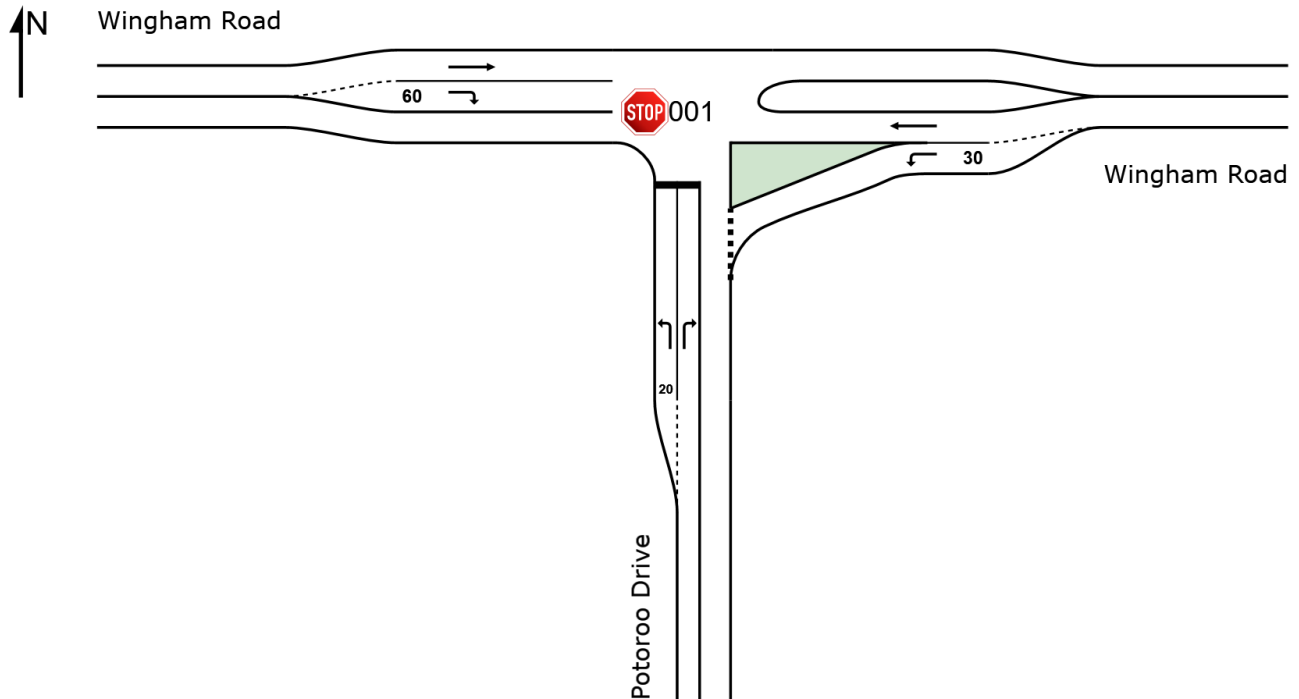
Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

 **Site: 001 [2024 AM BG+D (Site Folder: Upgraded Layout)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	15	7.0	16	7.0	0.023	11.8	LOS B	0.0	0.2	0.54	0.90	0.54	49.8
3	R2	56	6.0	59	6.0	0.453	45.2	LOS E	0.6	4.6	0.94	1.06	1.19	34.4
Approach		71	6.2	75	6.2	0.453	38.1	LOS E	0.6	4.6	0.86	1.03	1.05	36.8
East: Wingham Road														
4	L2	78	1.0	82	1.0	0.051	5.7	LOS A	0.1	0.6	0.08	0.52	0.08	54.0
5	T1	547	6.0	576	6.0	0.307	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		625	5.4	658	5.4	0.307	0.8	LOS A	0.1	0.6	0.01	0.07	0.01	59.0
West: Wingham Road														
11	T1	829	4.0	873	4.0	0.462	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	22	5.0	23	5.0	0.025	8.6	LOS A	0.0	0.3	0.54	0.69	0.54	51.0
Approach		851	4.0	896	4.0	0.462	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1547	4.7	1628	4.7	0.462	2.3	NA	0.6	4.6	0.05	0.08	0.06	57.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2024 PM BG+D (Site Folder: Upgraded Layout)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	31	4.0	33	4.0	0.058	13.1	LOS B	0.1	0.6	0.62	0.98	0.62	49.1
3	R2	69	2.0	73	2.0	0.589	53.4	LOS F	0.9	6.1	0.96	1.10	1.36	32.0
Approach		100	2.6	105	2.6	0.589	40.9	LOS E	0.9	6.1	0.85	1.06	1.13	35.8
East: Wingham Road														
4	L2	56	2.0	59	2.0	0.037	5.7	LOS A	0.1	0.4	0.07	0.52	0.07	53.9
5	T1	664	6.0	699	6.0	0.372	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		720	5.7	758	5.7	0.372	0.6	LOS A	0.1	0.4	0.01	0.04	0.01	59.3
West: Wingham Road														
11	T1	760	5.0	800	5.0	0.427	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
12	R2	19	6.0	20	6.0	0.027	9.6	LOS A	0.0	0.3	0.59	0.74	0.59	50.2
Approach		779	5.0	820	5.0	0.427	0.4	NA	0.0	0.3	0.01	0.02	0.01	59.4
All Vehicles		1599	5.2	1683	5.2	0.589	3.0	NA	0.9	6.1	0.06	0.09	0.08	57.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2034 AM BG+D (Site Folder: Upgraded Layout)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	14	7.0	15	7.0	0.026	13.1	LOS B	0.0	0.3	0.60	0.93	0.60	49.0
3	R2	56	6.0	59	6.0	0.902	159.3	LOS F	1.6	11.9	0.99	1.25	2.08	16.6
Approach		70	6.2	74	6.2	0.902	130.1	LOS F	1.6	11.9	0.92	1.19	1.79	19.1
East: Wingham Road														
4	L2	78	1.0	82	1.0	0.051	5.7	LOS A	0.1	0.6	0.08	0.52	0.08	54.0
5	T1	650	6.0	684	6.0	0.365	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		728	5.5	766	5.5	0.365	0.7	LOS A	0.1	0.6	0.01	0.06	0.01	59.1
West: Wingham Road														
11	T1	985	4.0	1037	4.0	0.549	0.3	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
12	R2	22	5.0	23	5.0	0.030	9.5	LOS A	0.0	0.3	0.59	0.74	0.59	50.3
Approach		1007	4.0	1060	4.0	0.549	0.5	NA	0.0	0.3	0.01	0.02	0.01	59.3
All Vehicles		1805	4.7	1900	4.7	0.902	5.6	NA	1.6	11.9	0.05	0.08	0.08	54.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 001 [2034 PM BG+D (Site Folder: Upgraded Layout)]**

Wingham Road / Potoroo Drive

Prepared By: RP

Checked by: AK

Site Category: (None)

Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Potoroo Drive														
1	L2	31	4.0	33	4.0	0.076	15.3	LOS C	0.1	0.7	0.71	1.00	0.71	47.8
3	R2	69	2.0	73	2.0	1.170	301.9	LOS F	4.5	32.1	1.00	1.72	4.24	9.8
Approach		100	2.6	105	2.6	1.170	213.1	LOS F	4.5	32.1	0.91	1.50	3.14	13.1
East: Wingham Road														
4	L2	56	2.0	59	2.0	0.037	5.7	LOS A	0.1	0.4	0.07	0.52	0.07	53.9
5	T1	789	6.0	831	6.0	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		845	5.7	889	5.7	0.443	0.5	LOS A	0.1	0.4	0.00	0.03	0.00	59.2
West: Wingham Road														
11	T1	903	5.0	951	5.0	0.507	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
12	R2	19	6.0	20	6.0	0.034	11.2	LOS B	0.0	0.4	0.67	0.82	0.67	49.1
Approach		922	5.0	971	5.0	0.507	0.4	NA	0.0	0.4	0.01	0.02	0.01	59.3
All Vehicles		1867	5.2	1965	5.2	1.170	11.9	NA	4.5	32.1	0.06	0.10	0.18	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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