TAYLOR PRELIMINARY MASTER PLAN
TRAFFIC AND ACCESS REVIEW

VERSION 2

SETPEMBER 2015

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TABLE OF CONTENTS

1. INTRODUCTION 3
2. INVESTIGATION SCOPE 3
3. SITE DESCRIPTION AND LOCATION 3
4. BACKGROUND & PLANNING FRAMEWORK 4
4.1 Master plan 4
4.2 Land uses 4
4.3 Access 4
4.4 Previous studies 5
5. CONSULTATION 5
6. EXISTING CONDITION 5
6.1 Surrounding Road Network 5
7. PROPOSED TRAFFIC GENERATION 6
7.2 Comparison to previous studies 8
7.3 Traffic Distribution 9
7.4 Access to Casey 9
7.5 Taylor road network 10
8. TRAFFIC IMPACTS 11
8.1 Intersections with horse park drive 11
8.2 Sensitivity analysis 12
9. SITE CONSTRAINTS 13
9.1 Staging 13
10. OPINION OF PROBABLE COSTS 13
10.1 External accesses 13
11. RECOMMENDATIONS 13

LIST OF TABLES

Table 1 Preliminary Block mix and yield 4
Table 2: Summary of Residential Daily and Peak Hour Traffic Generation 6
Table 3: Summary of School Daily and Peak Hour Traffic Generation 7
Table 4: Summary of Commercial Daily and Peak Hour Traffic Generation 7
Table 5: Summary of Overall Daily and Peak Hour Traffic Generation 8
Table 6: Comparison of Overall Daily Traffic Generation 8
Table 7: Traffic distribution of Daily Traffic Generation 9
Table 8: Level of Service criteria for intersections 11
Table 9: Peak Hour traffic at intersections AM Peak 12
Table 10: Summary of SIDRA analysis 12
Table 11: Sensitivity Analysis 12

LIST OF FIGURES

Figure 1: Internal road network 10

ATTACHMENTS

Attachment A	Master Plan (Rev C), Tait Waddington
Attachment B	SIDRA Analysis

EXECUTIVE SUMMARY

Indesco Pty Limited was requested by the Land Development Agency (LDA) to undertake a review of previous traffic studies and provide engineering input to confirm the master plan for Taylor. The Preliminary Master Plan (Revision C), ("Preliminary master plan") for Taylor has been prepared by Tait Waddington.

This review focussed on the existing design assumptions and conclusions as they pertain to the master plan and included consultation with Roads ACT. In addition to the Preliminary master plan, the following background information was utilised in the preparation of this review:

- Horse Park Drive Extension Stage 2: Burramurra Avenue to Mirrabei Drive, Document Readiness Report, and SIDRA models, Brown Consulting, November 2012.
- Moncrieff West Estate Development Plan, Brown Consulting, February 2014.
- Casey 2 Estate Development Plan, Indesco, June 2010.

Taylor is planned to contain up to 2,650 residential dwellings and will include a P-10 school, playing fields and a Local Centre. The Preliminary master plan indicates that Taylor will contain predominantly low density residential with up to 15% of the area allocated for medium density developments. There is a greater proportion of residential development in the west of Taylor, to the north of Casey. The proposed school and playing fields are located adjacent to Horse Park Drive.

The Preliminary master plan assumes that the suburb gains access from Horse Park Drive at four locations:

- The existing intersection with Mirrabei Drive, forming a four-way signalised intersection.
- The existing intersection with Gaston Way, forming a four-way signalised intersection.
- A new left-in left-out (LILO) intersection east of the pedestrian underpass between Taylor and Casey.
- The existing unsignalised intersection from the Jacka Access Road stub.

Previous traffic studies for Horse Park Drive and Moncrieff West assumed a similar residential traffic generation from Taylor to that generated from the Preliminary master plan. However, the Preliminary master plan also shows a local centre and school which were not included within previous traffic studies/assumptions. Overall the traffic generation has increased by approximately 14%.

The traffic generation volumes from the Preliminary master plan were distributed to the external road network. Due to the concentration of development within the western side of Taylor, there is a higher traffic volume at the Taylor LILO and Gaston Way intersections compared to the Jacka Access Road or Mirrabei Drive. Traffic volumes were modelled to exceed the recommended volume (6,000 vehicles per day) at the western accesses.

A direct road connection to the existing access streets within Casey was not recommended.

The performance of the proposed Horse Park Drive intersections was analysed using SIDRA based on the updated traffic generation volumes. Two configurations were analysed for the Taylor LILO intersection. Signalising the Taylor LILO intersection was required in order to achieve an acceptable level of service.

A sensitivity analysis was undertaken on the performance of the Gaston Way and Horse Park Drive intersection. This showed that the number of dwellings could increase by 20% and still maintain a LoS C. As the number of dwellings increased by 30% and then 50%, the intersection performance deteriorated to LoS D and then LoS F.

It is anticipated that the works required to upgrade two existing intersections and provide a new intersection for access to Taylor will cost approximately $6-7 M.

SUMMARY OF RECOMMENDATIONS

The following key recommendations are presented in this report:

- It is recommended that two lane, two way roads are provided near the three Horse Park Drive intersections in order to accommodate the proposed traffic generation volumes.
- The signalisation of the Taylor LILO access is recommended.

1. INTRODUCTION

Indesco was requested by the Land Development Agency (LDA) to undertake a review of previous traffic and road access studies and provide engineering input into the master plan for Taylor.

Taylor is a future residential estate located to the north of the suburbs of Moncrieff and Casey in Gungahlin, ACT.

The Preliminary Master Plan (Revision C) ("Preliminary master plan") for Taylor has been prepared by Tait Waddington (refer to Appendix A). Taylor is planned to contain up to 2,650 residential dwellings and include a P-10 school, playing fields and a Local Centre.

This report contains the following attachments:

Attachment A	Master Plan (Rev C), Tait Waddington
Attachment B	SIDRA Analysis

2. INVESTIGATION SCOPE

The following elements were investigated as part of this report:

- Review background information and identify design assumptions and conclusions as they pertain to the accesses shown in the Preliminary master plan.
- Update the traffic generation volumes to reflect the current layout of the Preliminary master plan.
- Assess the traffic generation volumes for the location and number of accesses.
- Undertake a sensitivity analysis on the traffic generation volumes to account for an upper and lower range of yield scenarios, as determined by the LDA.
- Review the internal road layout and liaise with Tait Waddington in a design workshop.
- Prepare typical intersection layouts for accesses into Taylor based on the agreed subdivision layout and feedback from Tait Waddington and the LDA.
- Describe staging constraints and recommended timing for the duplication of Horse Park Drive and key road infrastructure.
- Provide a summary report and associated drawings.

3. SITE DESCRIPTION AND LOCATION

The future suburb of Taylor is approximately 317 Ha and is located to the north of Moncrieff and Casey and to the west of the future development area within Jacka. Taylor is bounded by the following:

- Horse Park Drive to the south;
- Casey to the southwest;
- Rural land, zoned as Hills, Ridges and Buffers to the west and north; and
- The future development area of Jacka to the east.

The land is currently used for grazing. The topography of the site is typically undulating with a series of ridge lines in the north and east and slopes increasing towards the west. Access to the site will be from Horse Park Drive.

4. BACKGROUND & PLANNING FRAMEWORK

4.1 MASTER PLAN

The Preliminary master plan demonstrates a concept layout for the Taylor residential estate. Table 1 summarises the preliminary block mix and yield analysis which has been adopted as the basis for this report. The Preliminary master plan layout is included in Appendix A.

Table 1 Preliminary Block mix and yield

Land Use	Land Use (Ha)	Density (Dw/Ha)	Yield (Dw)
Open Space	79.3		
P10 School & Playing Fields	16.5		
CFZ Site	0.6		
Local Centre	2.2		
Multi-Unit	18.6	30-40	639
Compact Blocks	3.4	32	108
Mid-Sized Blocks	35.7	22	784
Large Blocks	51.9	18	933
Sub-Total	**208.2**		**2,464**
Other (Hills, buffer areas etc)	108.8		
Total	**317**		**2,464**

4.2 LAND USES

The Preliminary master plan indicates that Taylor will be predominantly low density residential and zoned RZ1. Up to 15% of the land use will be for medium density developments zoned RZ3 and RZ4. Taylor will contain a P-10 school and playing fields on a 16.5 Ha site and have a small local centre with CZ4 and CZ5 land uses. The school is located adjacent to Horse Park Drive, in the centre of the southern boundary. There will also be a CZ5 site near the intersection of Horse Park Drive and Mirrabei Drive.

The development is concentrated within the western half of Taylor, which will result in a higher proportion of traffic on the western access points.

The following assumptions have been made in relation to the non-residential areas:

- The school will have 1,800 students and 200 staff.
- The Local centre will contain a convenience store and retail with a total GFA of 1,000 m^2.
- The Mixed use and commercial sites will have a combined GFA of 2,000 m^2.

4.3 ACCESS

The Preliminary master plan indicates that vehicular access to Taylor will be from four access points on Horse Park Drive. A future connection to Jacka is also proposed. The proposed intersections on Horse Park Drive are located as follows:

- The existing intersection with Mirrabei Drive, forming a four-way signalised intersection.
- The existing intersection with Gaston Way, Moncrieff, forming a four-way signalised intersection.
- A new left-in left-out (LILO) intersection near the pedestrian underpass between Taylor and Casey.
- The existing unsignalised intersection from the Jacka Access Road stub, between Taylor and Jacka.

It is understood that a public transport bus route may travel through Taylor along the collector roads. Provisions for public transport and active travel infrastructure will be provided during Estate Development Planning phase.

4.4 PREVIOUS STUDIES

In addition the Preliminary master plan, the following background information was utilised in the preparation of this review:

- Horse Park Drive Extension Stage 2: Burramurra Avenue to Mirrabei Drive, Document Readiness Report, and SIDRA models, Brown Consulting, November 2012.
- Moncrieff West Estate Development Plan, Brown Consulting, February 2014.
- Casey 2 Estate Development Plan, Indesco, June 2010.

5. CONSULTATION

Indesco discussed the proposed vehicular access to Taylor with Roads ACT. This discussion focussed on the potential for signalising the LILO intersection to enable right turns to and from Horse Park Drive. The signalisation of this intersection will provide additional capacity to the road network on the western side of Taylor. Roads ACT confirmed that a signalized intersection in this location could be supported with appropriate design development and justification.

Consultation with ACTION or TAMS on the internal road network was not within the scope of this review.

6. EXISTING CONDITION

6.1 SURROUNDING ROAD NETWORK

The major roads around Taylor are:

Horse Park Drive

An Arterial Road along the southern boundary of Taylor and serving North Gungahlin. Suburbs that have direct access to Horse Park Drive include Casey, Ngunnawal, Moncrieff, Jacka, Bonner, Harrison, Amaroo, Kenny, Forde and Throsby. Horse Park Drive links these suburbs to the Federal and Monaro Highways.

The current road condition is a single lane in each direction. It is proposed to duplicate Horse Park Drive between Gaston Way and Wells Station Drive. There is no plan to duplicate Horse Park Drive between Burramara Avenue (Casey) and Gaston Way.

The carriageway width and median treatment varies. Right turn lanes with storage have been provided at existing intersections. A signalised intersection has been constructed at Mirrabei Drive. The posted speed limit is 80 km/hr.

Mirrabei Drive

An Arterial Road that changes to a Major Collector road through the suburb of Moncrieff. Mirrabei Drive connects Gundaroo Drive with Horse Park Drive and provides direct access to the suburbs of Ngunnawal, Amaroo and Moncrieff.

Mirrabei Drive terminates near the centre of the southern boundary for Taylor. Near Taylor, this road is a divided carriageway with a central concrete median and two lanes in each direction. The posted speed limit is 60 km/hr.

Gaston Way A Minor Collector road within Moncrieff. This road is an undivided, two lane road with a single lane in each direction. This road provides access to Horse Park Drive for residential areas in western Moncrieff via a priority controlled intersection. At the intersection, concrete medians have been provided within Gaston Way to accommodate future signalisation.

Jacka Access Road A stub for a Major Collector road has been constructed for the Jacka Access Road during the construction of Horse Park Drive. This stub forms an unsignalised intersection with Horse Park Drive.

This road will provide a northern access to the future suburb of northern Jacka.

For the purposes of this report, the final condition (i.e. duplication in relevant sections) has been assumed for Horse Park Drive.

7. PROPOSED TRAFFIC GENERATION

Traffic generation from the proposed development has been estimated based on the *RMS Guide to Traffic Generating Developments, Version 2.2* (October 2002) and the ACTPLA *Estate Development Code* (October 2013).

7.1.1 Residential Component

According to the ACTPLA *Estate Development Code* the daily traffic generation rates for residential developments component are provided as follows:

- 8 vehicle movements per day for single dwelling blocks.
- 6 vehicles per day for dwellings for multi unit developments.

A summary of the generated residential daily and peak hour traffic flows is provided in Table 2.

Table 2: Summary of Residential Daily and Peak Hour Traffic Generation

Type of Dwelling	Number of dwellings	Daily vehicle trips		Peak hour vehicle trips	
		Generation rate	No. of trips	Generation rate	No. of trips
Single Dwellings	1825	8	14,600	0.8	1,460
Multi unit developments	639	6	3,834	0.6	383
Total	**2,464**		**18,434**		**1,843**

7.1.2 School and Playing Fields

It has been assumed that the school will accommodate 1,800 students based on previous studies (Calibre, 2014). Due to the location it is anticipated that 75% of traffic to and from the school would be externally generated from nearby suburbs such as Moncrieff, Casey and Jacka. A summary of the proposed rates and the resultant traffic generation for the school is provided in Table 3.

A traffic generation volume for the playing fields has not been included within this assessment as the detail of the facility is yet to be determined. This traffic generation volume predominantly occurs in the afternoon or on weekends and does not coincide with the AM Peak. A nominal traffic generation of 1500 vpd was adopted for the playing fields in the absence of a master plan for this area.

Table 3: Summary of School Daily and Peak Hour Traffic Generation

Land Use	Students	Staff	AM Peak hour vehicle trips			Daily Traffic Generation		
			Generation rate	Total trips	Total Reduced trips	Generation rate	Total trips	Total Reduced trips
School	1,800	200	0.15*	270	203	1.29*	2,322	1,742
Playing fields								1,500
Total					**203**			**3,242**

Note

* Trip generation rates were based on the 8th Edition of the Institute of Traffic Engineers Trip Generation manual. Assumes AM trip generation rates are equal to PM generation. Assumes PM generation does not coincide with PM peak hour from other sources.

7.1.3 Local Centre & Mixed Use Areas

The Local Centre and Mixed Use areas are proposed to include:

- 1,000 m^2 GFA Convenience Store.
- 2,000 m^2 of GFA for commercial and mixed use development.

Given the location of the proposed local centre we have conservatively assumed that 50% of traffic to and from the centre is internally generated. A summary of the rates adopted and the resultant anticipated daily and peak hour traffic volumes are presented in Table 4 below.

Table 4: Summary of Commercial Daily and Peak Hour Traffic Generation

Land Use	Area (m^2)	Generation rate (GFA)		Daily trips		AM Peak Hour trips	
		Generation rate	AM Peak Hour	Total trips	Total Reduced trips	Total trips	Total Reduced trips
Commercial / Mixed Use	2,000	51 trips / 1,000 m^2	22 trips / 1,000 m^2	102	51	44	22
Convenience Store	1,000	1,475 trips / 1,000 m^2	155 trips / 1,000 m^2	1,475	738	155	78
Community Facility	6,000	51 trips / 1,000 m^2	22 trips / 1,000 m^2	306	153	132	66
Total	**9,000**				**942**		**166**

7.1.4 Summary

Table 5 provides a summary of the daily and peak traffic generated by Taylor.

Table 5: Summary of Overall Daily and Peak Hour Traffic Generation

Land Use	Daily Total trips	AM peak hour Total trips
Residential	18,434	1,843
School and playing fields	3,242	203
Local Centre and Commercial	942	166
Total	**22,618**	**2,212**

7.2 COMPARISON TO PREVIOUS STUDIES

The Horse Park Drive Extension design report (Brown Consulting, November 2012) and subsequent Moncrieff West EDP (Brown Consulting, February 2014) has assumed a higher development yield for Taylor (3,140 dwellings) than the Preliminary master plan (2,464 dwellings). However, the traffic generation from Taylor was discounted by 20% as part of the design of Horse Park Drive (Calibre, 2012) which resulted in a similar residential traffic generation to the current (undiscounted) residential traffic generation. The Preliminary master plan also shows a local centre and school which were not included within previous traffic studies/assumptions. Overall the traffic generation has increased by approximately 14%, which is summarised in Table 6 below.

Table 6: Comparison of Overall Daily Traffic Generation

Land Use	Preliminary Master plan Rev C		Calibre, 2014	
	Dwellings/ Students/ GFA	Daily Total trips	Dwellings	Daily Total trips
Residential	2,464	18,434	3,140	18,550*
School	1,800	3,242	0	0
Local Centre and Commercial	9,000	942	0	0
Total		**22,618**		**18,550**

Note

* Assumes 20% discount in traffic generation.

7.3 TRAFFIC DISTRIBUTION

The generated traffic has been broadly distributed to the external road network based on the shortest perceived route to the external connections. Due to the concentration of development within the western side of Taylor, there is a higher traffic volume at the Taylor LILO and Gaston Way intersections compared to the Jacka Access Road or Mirrabei Drive.

Due to the assumption that 50% of the traffic to and from the local centre and 25% of the traffic to and from the school is internally generated, the traffic through the external access has been reduced by the same volume.

The assumed traffic distribution is summarised in Table 7.

Table 7: Traffic distribution of Daily Traffic Generation

Horse Park Drive Intersection	Daily Total trips
Mirrabei Drive	6,032
Gaston Way	5,399
Taylor LILO	9,166
Jacka Access Road	400
Future Jacka connection	100
Internal circulation	1,521
Total	**22,618**

7.4 ACCESS TO CASEY

Taylor is located directly to the north of Casey. A road connection to the existing roads within Casey is not recommended. The roads within Casey that would need to be utilised for any connection have been designed as Local Access Streets (Indesco, 2010) which will not have capacity to absorb traffic from Taylor.

7.5 TAYLOR ROAD NETWORK

Indesco has not reviewed the internal road layout in detail. It is noted that there are a number of improvements that could be made during the development of an EDP. If this occurs, the distribution of traffic volumes to external accesses could vary. However, the changes are likely to be minor in nature and can be adjusted during the preparation of the EDP.

It is recommended that the proposed LILO access is located as far away from the Gaston Way intersection as possible, in order to reduce the interruption to traffic flows on Horse Park Drive. However, there is an existing bridge and pedestrian underpass between Taylor and Casey that will also form a constraint to the south. It is anticipated that the LILO access could be located approximately 100 m after this bridge.

The Estate Development Code requires that Major Collector roads have capacity for 3,000-6,000 vehicles per day. The traffic generation volumes will exceed this volume near the western access points (refer to Table 7 above). A more detailed traffic volume assessment will be prepared as part of the EDP traffic study, however, it is recommended that a two lane, two way road is assumed for a short section in these locations. Based on the traffic generation volumes from the Preliminary master plan, duplication may only be required in one direction (i.e. three lanes in total).

This is demonstrated in Figure 1 below.

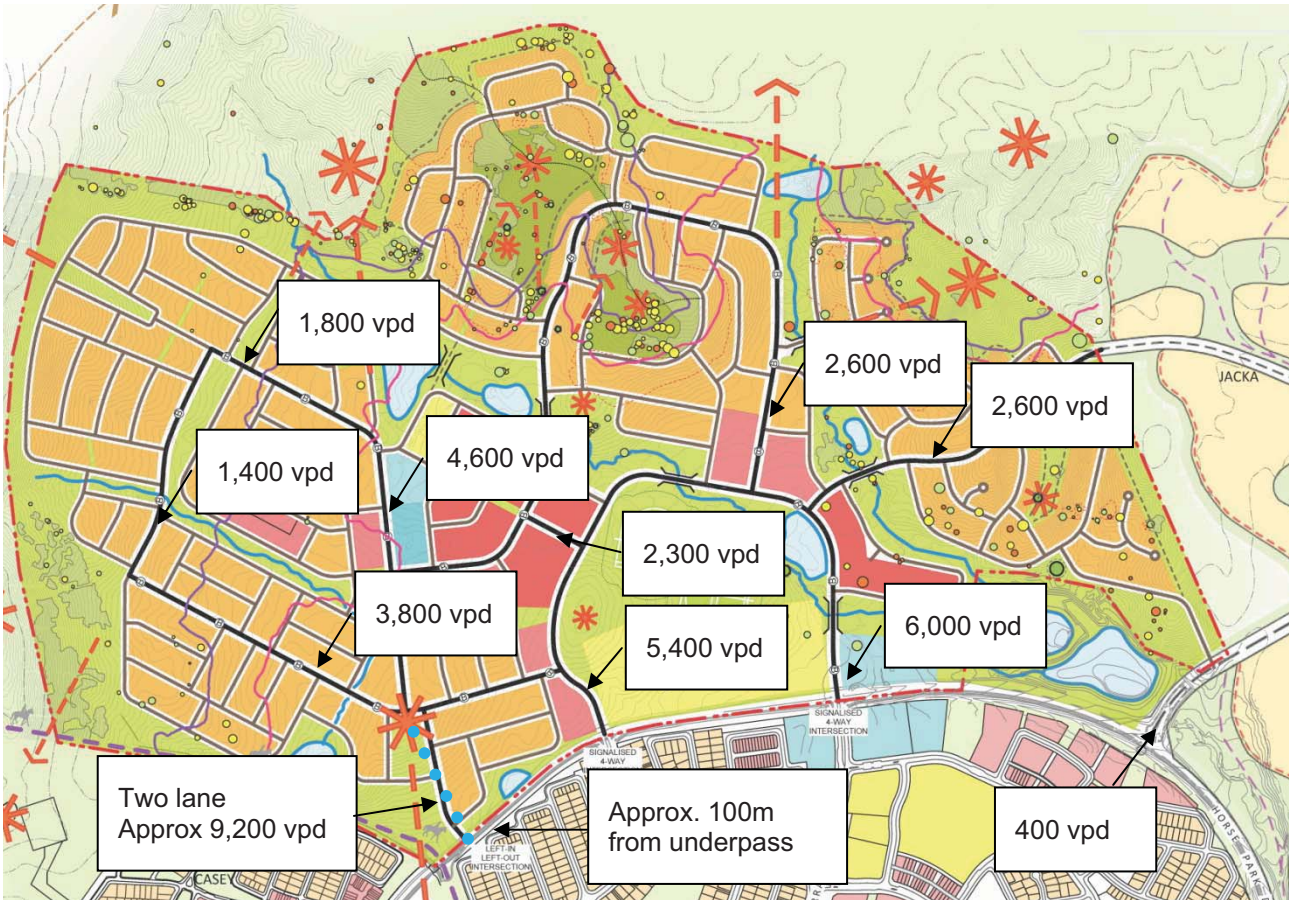


Figure 1: Internal road network (Preliminary master plan)

8. TRAFFIC IMPACTS

8.1 INTERSECTIONS WITH HORSE PARK DRIVE

The performance of the proposed Horse Park Drive intersections was analysed using SIDRA based on the updated traffic generation volumes. SIDRA is used for the analysis of intersection capacity, level of service and performance. This package provides several useful indicators to determine the level of intersection performance. These are known as Level of Service (LoS), Degree of Saturation (DoS), Average Delay (seconds) and Maximum Queue Length (metres). The LoS criteria for intersections are shown in Table 8.

Table 8: Level of Service criteria for intersections

Level of Service	Average delay (seconds per vehicle)	Traffic signals and roundabout	Give Way and Stop signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity At signals; incidents will cause excessive delays; roundabouts require other control mode	At capacity; requires other control mode
F	Greater than 71	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing; requires other control mode

Source: *RMS Guide to Traffic Generating Developments*

Intersection turning movements from the Horse Park Drive Extension design report (Brown Consulting, November 2012) and Moncrieff West EDP (Brown Consulting, February 2014) were obtained for 2031 for Horse Park Drive through-traffic volumes. The forecasted traffic volumes for 2031 were used in the analysis which assumes that Horse Park Drive will be operating under the 'ultimate' condition.

The following assumptions have been used for the turning movement volumes at the intersection:

- AM Peak: 90% out and 10% in

The traffic volumes used for the SIDRA model are shown in Table 9 and the full SIDRA results are included within Attachment B, including the modelled intersection layouts. The intersection analysis was based on a previous, more conservative layout and traffic volume generation. Revised modelling has reduced the peak outbound trip generation to approximately 2,212 vph.

Table 9: Peak Hour traffic at intersections AM Peak

Horse Park Drive Intersection	Preliminary Master plan Rev C		Calibre, 2014	
	Outbound (vph)	Inbound (vph)	Outbound (vph)	Inbound (vph)
Mirrabei Dr	833	312	1,253	329
Gaston Way	823	410	506	171
Taylor LILO	580	64	0	0
Jacka Access Road	609	69	386	44
Total	**2,425**	**843**	**2,145**	**544**

The proposed intersection arrangements for the AM peak in 2031 shows that Mirrabei Drive, Taylor Left in Left out (LILO) and the Jacka Access Road all operate at a satisfactory level of service within the Preliminary master plan layout. However, the Gaston Way access was observed to have significant delays and operate at LOS F. This was due to the westbound vehicles that would use the Taylor LILO intersection (had it been a full access intersection) instead used Gaston Way to exit to the westbound direction of Horse Park Drive.

Table 10: Summary of SIDRA analysis

Horse Park Drive Intersection	Preliminary Master plan Rev C				Calibre, 2014	
	Intersection treatment	SIDRA	Intersection treatment	SIDRA	Intersection treatment	SIDRA
Mirrabei Dr	Signalized	LoS C	Signalized	LoS C	Signalized	LoS C
Gaston Way	Signalized	LoS C	Signalized	**LoS F**	Signalized	LoS C
Taylor LILO	Signalized	LoS C	LILO	LoS C	n/a	n/a
Jacka Access Rd	Unsignalized	LoS C	Unsignalized	LoS C	Unsignalized	LoS A

8.2 SENSITIVITY ANALYSIS

A sensitivity analysis was undertaken on the performance of the Gaston Way and Horse Park Drive intersection by increasing the residential component of the development yield within Taylor. This intersection was selected because Gaston Way had the highest percentage of Taylor suburb generated traffic passing through it and would be most susceptible to increases in residential dwellings.

This showed that the number of dwellings could increase by 20% and still maintain a LoS C. As the number of dwellings increased by 30% and then 50%, the intersection performance deteriorated.

Table 11: Sensitivity Analysis

Horse Park Drive Intersection	Base Case	20% Increase	30% Increase	50% Increase
Gaston Way	LoS C	LoS C	LoS D	LoS F

9. SITE CONSTRAINTS

9.1 STAGING

Horse Park Drive between Anthony Rolfe Avenue and Wells Station Drive is scheduled for duplication in 2017. No staging constraints have been identified in relation to the development of the internal road network and access points.

It is recommended that stage boundaries are determined in such a way as to facilitate access via the Major Collector roads independent of future stages. The stage boundaries, where possible, should also aim to minimise the number of road crossings between stages, in order to enable the maximum degree of flexibility for design team of each stage.

10. OPINION OF PROBABLE COSTS

10.1 EXTERNAL ACCESSES

It is anticipated that the design and construction costs for the proposed accesses to Taylor are of the following magnitudes:

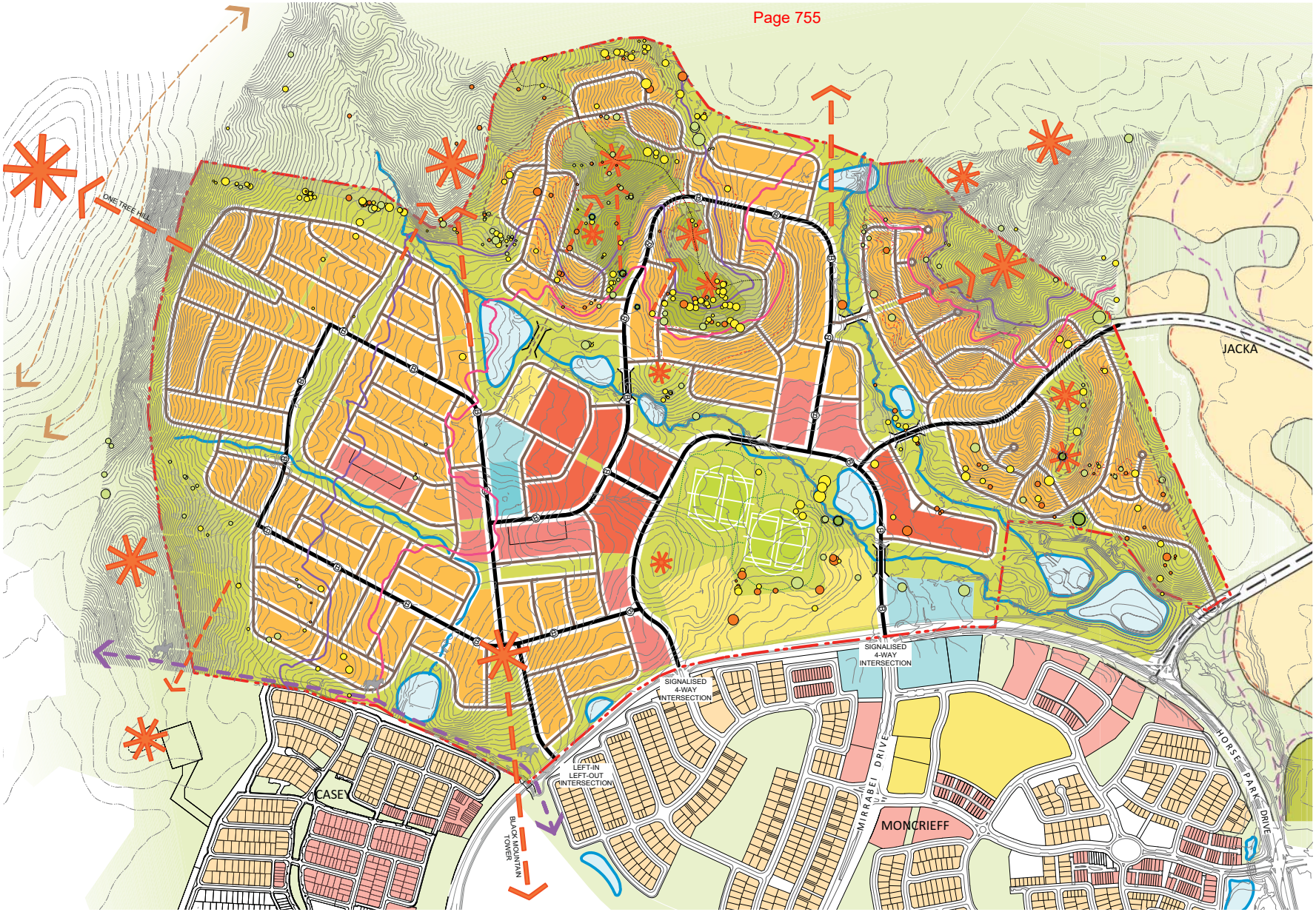
- Mirrabei Drive intersection upgrade: $2.5 - $3.1 M.
- Gaston Way intersection upgrade: $2.0-2.2 M.
- Taylor LILO: $1.6-$1.8 M.
- Jacka Access Road intersection: No additional works proposed at this stage.

11. RECOMMENDATIONS

The following recommendations have been concluded or reaffirmed in this investigation:

- It is recommended that two lane, two way roads are provided near the three Horse Park Drive intersections in order to accommodate the proposed traffic generation volumes.
- The signalisation of the Taylor LILO access is recommended.

Attachment A



LEGEND:

- SITE BOUNDARY
- 10M CONTOURS
- 1M CONTOURS
- PRIMARY ROAD NETWORK
- SECONDARY ROAD NETWORK
- BUS ROUTE
- BUSH FIRE TRAIL
- RIDGE LINE
- WATER COURSE AND ASSOCIATED PONDS
- VIEW CORRIDOR
- PROMINENT HILL TOPS
- EXISTING TREES
- EQUESTRIAN TRAIL
- CENTENNIAL TRAIL
- 677M CONTOUR
- 685M CONTOUR
- NCDC FORWARD PLANTING
- LOW DENSITY DWELLINGS (RZ1) SINGLE RESIDENTIAL 18-22 DW/HA
- MEDIUM DENSITY DWELLINGS (RZ3) SINGLE RESIDENTIAL 32 DW/HA
- MEDIUM DENSITY DWELLINGS (RZ3) MULTI UNIT 30 DW/HA
- MEDIUM DENSITY DWELLINGS (RZ4) MULTI UNIT 35 DW/HA
- LOCAL CENTRE (CZ4)
- MIXED USE (CZ5) MULTI UNIT 40 DW/HA
- 0.7 HA COMMUNITY FACILITY (CFZ)
- 7.6 HA P-10 SCHOOL WITH 2 BASIC SPORT FIELD UNITS
- OPEN SPACE SYSTEMS

tait | waddington
ARCHITECTURE, PLANNING & THE URBAN LANDSCAPE

Revision

A	LDA Design Review Panel	20/03/2015	OT
B	For LDA Review	21/4/15	OT
C	For LDA Review	6/5/15	OT

DRAFT

Drawn By CR Checked By OT

Scale at A1 1:5000
Scale at A3 1:10000

0m 50 100 250 500

Figured dimensions shown on drawings take precedence over scaled dimensions. Do not scale off drawings

Consultants

Client

ACT Government
Economic Development

Land Development Agency
CANBERRA FIRST

Taylor Master Plan
Master Plan

Project Number 14/09
Revision C
Drawing Number SK-022

Attachment B

MOVEMENT SUMMARY

Site: HPD - Mirrabei Dr 2031 - Duplication

Horse Park Drive / Mirrabei Drive
2031
AM peak
Signals - Fixed Time Cycle Time = 106 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mirrabei Drive											
1	L2	111	3.0	0.094	9.5	LOS A	1.5	10.6	0.34	0.64	55.0
2	T1	102	3.0	0.298	41.3	LOS C	4.7	33.4	0.91	0.72	35.9
3	R2	151	3.0	0.462	48.5	LOS D	7.1	51.1	0.94	0.80	34.7
Approach		363	3.0	0.462	34.6	LOS C	7.1	51.1	0.75	0.73	39.5
East: Horse Park Drive											
4	L2	161	5.0	0.126	9.1	LOS A	1.4	10.4	0.25	0.67	57.8
5	T1	135	5.0	0.264	41.5	LOS C	3.9	28.3	0.90	0.70	42.1
6	R2	116	5.0	0.380	50.3	LOS D	5.4	39.7	0.93	0.79	35.0
Approach		412	5.0	0.380	31.3	LOS C	5.4	39.7	0.65	0.71	44.3
North: Taylor Access											
7	L2	346	3.0	0.269	8.0	LOS A	3.8	27.6	0.31	0.65	56.3
8	T1	224	3.0	0.259	36.5	LOS C	4.8	34.5	0.86	0.69	37.6
9	R2	306	3.0	0.744	49.2	LOS D	15.5	111.1	0.99	0.88	34.4
Approach		877	3.0	0.744	29.7	LOS C	15.5	111.1	0.69	0.74	41.7
West: Horse Park Drive											
10	L2	111	5.0	0.090	9.0	LOS A	0.9	6.7	0.24	0.66	57.9
11	T1	101	5.0	0.270	39.2	LOS C	4.5	32.7	0.89	0.70	43.2
12	R2	101	5.0	0.284	46.6	LOS D	4.5	32.9	0.89	0.78	36.1
Approach		313	5.0	0.284	30.9	LOS C	4.5	32.9	0.66	0.71	44.4
All Vehicles		1964	3.7	0.744	31.1	LOS C	15.5	111.1	0.69	0.73	42.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
P2	East Full Crossing	53	44.5	LOS E	0.1	0.1	0.92	0.92
P3	North Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
P4	West Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
All Pedestrians		211	46.6	LOS E			0.94	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD2 - Taylor LiLo - Conversion

Horse Park Drive / Taylor LiLo Access
2031
AM Peak
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Horse Park Drive 2											
5	T1	874	5.0	0.887	42.2	LOS C	20.3	148.3	1.00	1.08	35.4
6	R2	44	5.0	0.110	32.5	LOS C	1.4	10.2	0.83	0.72	38.2
Approach		918	5.0	0.887	41.7	LOS C	20.3	148.3	0.99	1.06	35.5
North: Taylor Left In Left Out access											
7	L2	407	3.0	0.910	47.8	LOS D	27.6	198.5	1.00	1.14	33.4
9	R2	214	3.0	0.910	47.7	LOS D	27.6	198.5	1.00	1.14	33.0
Approach		621	3.0	0.910	47.8	LOS D	27.6	198.5	1.00	1.14	33.3
West: Horse Park Drive 2											
10	L2	24	5.0	0.486	37.8	LOS C	7.9	57.9	0.88	0.78	38.6
11	T1	461	5.0	0.486	29.6	LOS C	8.1	59.2	0.89	0.76	40.2
Approach		485	5.0	0.486	30.0	LOS C	8.1	59.2	0.89	0.77	40.1
All Vehicles		2024	4.4	0.910	40.8	LOS C	27.6	198.5	0.97	1.01	35.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	32.5	LOS D	0.1	0.1	0.90	0.90
P3	North Full Crossing	53	26.5	LOS C	0.1	0.1	0.81	0.81
P4	West Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	31.1	LOS D			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - Jacka Access 2031 - -dual lane Jacka

Horse Park Drive / Jacka
2031
AM peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Horse Park Drive 2											
5	T1	414	5.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.00	80.0
6	R2	42	5.0	0.089	12.2	LOS A	0.3	2.1	0.55	0.83	54.3
Approach		456	5.0	0.110	1.1	NA	0.3	2.1	0.05	0.08	76.6
North: Jacka Access											
7	L2	632	3.0	0.646	9.9	LOS A	6.6	47.2	0.62	0.89	54.7
9	R2	53	3.0	0.394	37.9	LOS C	1.4	9.8	0.90	1.01	38.3
Approach		684	3.0	0.646	12.1	LOS A	6.6	47.2	0.64	0.90	53.0
West: Horse Park Drive 2											
10	L2	34	5.0	0.037	7.6	LOS A	0.1	0.8	0.12	0.58	59.0
11	T1	577	5.0	0.153	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		611	5.0	0.153	0.4	LOS A	0.1	0.8	0.01	0.03	78.4
All Vehicles		1751	4.2	0.646	5.2	NA	6.6	47.2	0.26	0.38	65.6

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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: HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.442	31.2	LOS C	7.9	56.9	0.85	0.85	42.3
2	T1	65	3.0	0.442	25.6	LOS B	7.9	56.9	0.85	0.85	40.4
3	R2	71	3.0	0.162	38.2	LOS C	2.7	19.7	0.83	0.74	38.4
Approach		317	3.0	0.442	31.6	LOS C	7.9	56.9	0.84	0.83	41.0
East: Horse Park Drive 2											
4	L2	7	5.0	0.007	14.1	LOS A	0.1	0.9	0.41	0.63	53.6
5	T1	464	5.0	0.673	35.5	LOS C	12.9	94.3	0.92	0.77	45.0
6	R2	286	5.0	1.004	106.5	LOS F	21.6	157.8	1.00	1.11	22.6
Approach		758	5.0	1.004	62.1	LOS E	21.6	157.8	0.94	0.90	32.8
North: Taylor Access											
7	L2	713	3.0	0.607	10.9	LOS A	14.6	104.5	0.58	0.75	54.0
8	T1	14	3.0	0.607	5.2	LOS A	14.6	104.5	0.58	0.75	51.0
9	R2	381	3.0	1.010	108.5	LOS F	29.9	214.9	1.00	1.21	22.1
Approach		1107	3.0	1.010	44.4	LOS D	29.9	214.9	0.72	0.91	36.1
West: Horse Park Drive 2											
10	L2	145	5.0	0.132	11.5	LOS A	2.1	15.0	0.37	0.69	55.7
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.186	58.3	LOS E	1.0	7.2	0.98	0.70	32.2
Approach		469	5.0	0.805	37.8	LOS C	10.3	75.5	0.80	0.80	42.3
All Vehicles		2652	3.9	1.010	46.8	LOS D	29.9	214.9	0.81	0.88	36.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	33.7	LOS D	0.1	0.1	0.82	0.82
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	41.6	LOS E			0.91	0.91

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 30% HPD - West Access 2031 -update

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.507	27.0	LOS B	6.4	46.3	0.90	0.82	44.4
2	T1	65	3.0	0.507	21.4	LOS B	6.4	46.3	0.90	0.82	42.4
3	R2	71	3.0	0.185	41.0	LOS C	2.9	20.5	0.86	0.75	37.3
Approach		317	3.0	0.507	29.0	LOS C	6.4	46.3	0.89	0.80	42.2
East: Horse Park Drive 2											
4	L2	7	5.0	0.006	9.5	LOS A	0.1	0.5	0.26	0.63	57.4
5	T1	464	5.0	0.822	42.9	LOS D	14.6	106.9	0.96	0.86	41.2
6	R2	348	5.0	1.091	168.3	LOS F	34.5	252.1	1.00	1.26	16.4
Approach		820	5.0	1.091	95.9	LOS F	34.5	252.1	0.97	1.03	25.1
North: Taylor Access											
7	L2	678	3.0	0.600	10.9	LOS A	10.7	77.2	0.60	0.76	54.0
8	T1	11	3.0	0.600	5.3	LOS A	10.7	77.2	0.60	0.76	51.0
9	R2	362	3.0	1.001	98.6	LOS F	27.3	195.7	1.00	1.19	23.5
Approach		1051	3.0	1.001	41.1	LOS C	27.3	195.7	0.74	0.91	37.3
West: Horse Park Drive 2											
10	L2	177	5.0	0.170	12.3	LOS A	2.7	19.8	0.41	0.70	55.0
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.086	49.1	LOS D	0.9	6.4	0.91	0.71	35.1
Approach		501	5.0	0.805	36.1	LOS C	10.3	75.5	0.78	0.80	42.9
All Vehicles		2688	4.0	1.091	55.4	LOS D	34.5	252.1	0.84	0.91	33.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	37.1	LOS D	0.1	0.1	0.86	0.86
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	42.5	LOS E			0.92	0.92

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 50% HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 150 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.652	57.7	LOS E	12.2	87.8	0.97	0.95	32.4
2	T1	65	3.0	0.652	52.1	LOS D	12.2	87.8	0.97	0.95	31.3
3	R2	71	3.0	0.116	42.3	LOS C	3.5	25.3	0.73	0.73	36.8
Approach		317	3.0	0.652	53.1	LOS D	12.2	87.8	0.92	0.90	33.0
East: Horse Park Drive 2											
4	L2	7	5.0	0.006	11.9	LOS A	0.1	0.9	0.27	0.63	55.4
5	T1	464	5.0	0.593	41.4	LOS C	15.1	110.6	0.82	0.69	41.9
6	R2	337	5.0	1.000	146.7	LOS F	35.2	257.3	1.00	1.04	18.1
Approach		808	5.0	1.000	85.0	LOS F	35.2	257.3	0.89	0.84	27.1
North: Taylor Access											
7	L2	658	3.0	0.588	13.4	LOS A	18.9	135.5	0.57	0.75	52.1
8	T1	11	3.0	0.588	7.8	LOS A	18.9	135.5	0.57	0.75	49.3
9	R2	352	3.0	1.013	170.0	LOS F	39.0	279.9	1.00	1.13	16.1
Approach		1020	3.0	1.013	67.3	LOS E	39.0	279.9	0.72	0.88	29.5
West: Horse Park Drive 2											
10	L2	171	5.0	0.162	17.5	LOS B	4.8	35.2	0.44	0.71	51.1
11	T1	304	5.0	0.992	97.8	LOS F	18.9	138.0	1.00	0.98	25.4
12	R2	20	5.0	0.279	87.2	LOS F	1.5	11.1	1.00	0.70	25.7
Approach		495	5.0	0.992	69.7	LOS E	18.9	138.0	0.81	0.88	30.8
All Vehicles		2640	4.0	1.013	71.5	LOS F	39.0	279.9	0.81	0.87	29.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	39.0	LOS D	0.2	0.2	0.72	0.72
P2	East Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	66.4	LOS F	0.2	0.2	0.94	0.94
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		211	61.0	LOS F			0.90	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.436	26.4	LOS B	6.8	48.6	0.84	0.81	44.7
2	T1	65	3.0	0.436	20.8	LOS B	6.8	48.6	0.84	0.81	42.7
3	R2	71	3.0	0.194	41.9	LOS C	2.9	20.8	0.87	0.75	36.9
Approach		317	3.0	0.436	28.7	LOS C	6.8	48.6	0.85	0.80	42.3
East: Horse Park Drive 2											
4	L2	7	5.0	0.007	14.2	LOS A	0.1	0.9	0.41	0.63	53.5
5	T1	464	5.0	0.561	31.5	LOS C	12.4	90.4	0.87	0.73	47.3
6	R2	286	5.0	0.803	51.5	LOS D	14.3	104.4	0.99	0.90	34.3
Approach		758	5.0	0.803	38.9	LOS C	14.3	104.4	0.91	0.79	41.4
North: Taylor Access											
7	L2	564	3.0	0.474	10.3	LOS A	9.9	71.2	0.49	0.71	54.4
8	T1	11	3.0	0.474	4.7	LOS A	9.9	71.2	0.49	0.71	51.4
9	R2	302	3.0	0.831	53.7	LOS D	15.8	113.7	1.00	0.94	33.0
Approach		877	3.0	0.831	25.2	LOS B	15.8	113.7	0.67	0.79	44.5
West: Horse Park Drive 2											
10	L2	145	5.0	0.131	10.6	LOS A	1.8	13.1	0.33	0.68	56.5
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.186	58.3	LOS E	1.0	7.2	0.98	0.70	32.2
Approach		469	5.0	0.805	37.5	LOS C	10.3	75.5	0.78	0.80	42.4
All Vehicles		2421	4.0	0.831	32.3	LOS C	15.8	113.7	0.79	0.79	42.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	30.5	LOS D	0.1	0.1	0.78	0.78
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	40.8	LOS E			0.90	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 50% HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 150 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.652	57.7	LOS E	12.2	87.8	0.97	0.95	32.4
2	T1	65	3.0	0.652	52.1	LOS D	12.2	87.8	0.97	0.95	31.3
3	R2	71	3.0	0.116	42.3	LOS C	3.5	25.3	0.73	0.73	36.8
Approach		317	3.0	0.652	53.1	LOS D	12.2	87.8	0.92	0.90	33.0
East: Horse Park Drive 2											
4	L2	7	5.0	0.006	11.9	LOS A	0.1	0.9	0.27	0.63	55.4
5	T1	464	5.0	0.593	41.4	LOS C	15.1	110.6	0.82	0.69	41.9
6	R2	337	5.0	1.000	146.7	LOS F	35.2	257.3	1.00	1.04	18.1
Approach		808	5.0	1.000	85.0	LOS F	35.2	257.3	0.89	0.84	27.1
North: Taylor Access											
7	L2	658	3.0	0.588	13.4	LOS A	18.9	135.5	0.57	0.75	52.1
8	T1	11	3.0	0.588	7.8	LOS A	18.9	135.5	0.57	0.75	49.3
9	R2	352	3.0	1.013	170.0	LOS F	39.0	279.9	1.00	1.13	16.1
Approach		1020	3.0	1.013	67.3	LOS E	39.0	279.9	0.72	0.88	29.5
West: Horse Park Drive 2											
10	L2	171	5.0	0.162	17.5	LOS B	4.8	35.2	0.44	0.71	51.1
11	T1	304	5.0	0.992	97.8	LOS F	18.9	138.0	1.00	0.98	25.4
12	R2	20	5.0	0.279	87.2	LOS F	1.5	11.1	1.00	0.70	25.7
Approach		495	5.0	0.992	69.7	LOS E	18.9	138.0	0.81	0.88	30.8
All Vehicles		2640	4.0	1.013	71.5	LOS F	39.0	279.9	0.81	0.87	29.3

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	39.0	LOS D	0.2	0.2	0.72	0.72
P2	East Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	66.4	LOS F	0.2	0.2	0.94	0.94
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		211	61.0	LOS F			0.90	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 30% HPD - West Access 2031 -update

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.507	27.0	LOS B	6.4	46.3	0.90	0.82	44.4
2	T1	65	3.0	0.507	21.4	LOS B	6.4	46.3	0.90	0.82	42.4
3	R2	71	3.0	0.185	41.0	LOS C	2.9	20.5	0.86	0.75	37.3
Approach		317	3.0	0.507	29.0	LOS C	6.4	46.3	0.89	0.80	42.2
East: Horse Park Drive 2											
4	L2	7	5.0	0.006	9.5	LOS A	0.1	0.5	0.26	0.63	57.4
5	T1	464	5.0	0.822	42.9	LOS D	14.6	106.9	0.96	0.86	41.2
6	R2	348	5.0	1.091	168.3	LOS F	34.5	252.1	1.00	1.26	16.4
Approach		820	5.0	1.091	95.9	LOS F	34.5	252.1	0.97	1.03	25.1
North: Taylor Access											
7	L2	678	3.0	0.600	10.9	LOS A	10.7	77.2	0.60	0.76	54.0
8	T1	11	3.0	0.600	5.3	LOS A	10.7	77.2	0.60	0.76	51.0
9	R2	362	3.0	1.001	98.6	LOS F	27.3	195.7	1.00	1.19	23.5
Approach		1051	3.0	1.001	41.1	LOS C	27.3	195.7	0.74	0.91	37.3
West: Horse Park Drive 2											
10	L2	177	5.0	0.170	12.3	LOS A	2.7	19.8	0.41	0.70	55.0
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.086	49.1	LOS D	0.9	6.4	0.91	0.71	35.1
Approach		501	5.0	0.805	36.1	LOS C	10.3	75.5	0.78	0.80	42.9
All Vehicles		2688	4.0	1.091	55.4	LOS D	34.5	252.1	0.84	0.91	33.6

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	37.1	LOS D	0.1	0.1	0.86	0.86
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	42.5	LOS E			0.92	0.92

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.442	31.2	LOS C	7.9	56.9	0.85	0.85	42.3
2	T1	65	3.0	0.442	25.6	LOS B	7.9	56.9	0.85	0.85	40.4
3	R2	71	3.0	0.162	38.2	LOS C	2.7	19.7	0.83	0.74	38.4
Approach		317	3.0	0.442	31.6	LOS C	7.9	56.9	0.84	0.83	41.0
East: Horse Park Drive 2											
4	L2	7	5.0	0.007	14.1	LOS A	0.1	0.9	0.41	0.63	53.6
5	T1	464	5.0	0.673	35.5	LOS C	12.9	94.3	0.92	0.77	45.0
6	R2	286	5.0	1.004	106.5	LOS F	21.6	157.8	1.00	1.11	22.6
Approach		758	5.0	1.004	62.1	LOS E	21.6	157.8	0.94	0.90	32.8
North: Taylor Access											
7	L2	713	3.0	0.607	10.9	LOS A	14.6	104.5	0.58	0.75	54.0
8	T1	14	3.0	0.607	5.2	LOS A	14.6	104.5	0.58	0.75	51.0
9	R2	381	3.0	1.010	108.5	LOS F	29.9	214.9	1.00	1.21	22.1
Approach		1107	3.0	1.010	44.4	LOS D	29.9	214.9	0.72	0.91	36.1
West: Horse Park Drive 2											
10	L2	145	5.0	0.132	11.5	LOS A	2.1	15.0	0.37	0.69	55.7
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.186	58.3	LOS E	1.0	7.2	0.98	0.70	32.2
Approach		469	5.0	0.805	37.8	LOS C	10.3	75.5	0.80	0.80	42.3
All Vehicles		2652	3.9	1.010	46.8	LOS D	29.9	214.9	0.81	0.88	36.5

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	33.7	LOS D	0.1	0.1	0.82	0.82
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	41.6	LOS E			0.91	0.91

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - Mirrabei Dr 2031 - Duplication

Horse Park Drive / Mirrabei Drive
2031
AM peak
Signals - Fixed Time Cycle Time = 106 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mirrabei Drive											
1	L2	111	3.0	0.094	9.5	LOS A	1.5	10.6	0.34	0.64	55.0
2	T1	102	3.0	0.298	41.3	LOS C	4.7	33.4	0.91	0.72	35.9
3	R2	151	3.0	0.462	48.5	LOS D	7.1	51.1	0.94	0.80	34.7
Approach		363	3.0	0.462	34.6	LOS C	7.1	51.1	0.75	0.73	39.5
East: Horse Park Drive											
4	L2	161	5.0	0.126	9.1	LOS A	1.4	10.4	0.25	0.67	57.8
5	T1	135	5.0	0.264	41.5	LOS C	3.9	28.3	0.90	0.70	42.1
6	R2	116	5.0	0.380	50.3	LOS D	5.4	39.7	0.93	0.79	35.0
Approach		412	5.0	0.380	31.3	LOS C	5.4	39.7	0.65	0.71	44.3
North: Taylor Access											
7	L2	346	3.0	0.269	8.0	LOS A	3.8	27.6	0.31	0.65	56.3
8	T1	224	3.0	0.259	36.5	LOS C	4.8	34.5	0.86	0.69	37.6
9	R2	306	3.0	0.744	49.2	LOS D	15.5	111.1	0.99	0.88	34.4
Approach		877	3.0	0.744	29.7	LOS C	15.5	111.1	0.69	0.74	41.7
West: Horse Park Drive											
10	L2	111	5.0	0.090	9.0	LOS A	0.9	6.7	0.24	0.66	57.9
11	T1	101	5.0	0.270	39.2	LOS C	4.5	32.7	0.89	0.70	43.2
12	R2	101	5.0	0.284	46.6	LOS D	4.5	32.9	0.89	0.78	36.1
Approach		313	5.0	0.284	30.9	LOS C	4.5	32.9	0.66	0.71	44.4
All Vehicles		1964	3.7	0.744	31.1	LOS C	15.5	111.1	0.69	0.73	42.2

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
P2	East Full Crossing	53	44.5	LOS E	0.1	0.1	0.92	0.92
P3	North Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
P4	West Full Crossing	53	47.3	LOS E	0.1	0.1	0.95	0.95
All Pedestrians		211	46.6	LOS E			0.94	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - Jacka Access 2031 - -dual lane Jacka

Horse Park Drive / Jacka
2031
AM peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Horse Park Drive 2											
5	T1	414	5.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.00	80.0
6	R2	42	5.0	0.089	12.2	LOS A	0.3	2.1	0.55	0.83	54.3
Approach		456	5.0	0.110	1.1	NA	0.3	2.1	0.05	0.08	76.6
North: Jacka Access											
7	L2	632	3.0	0.646	9.9	LOS A	6.6	47.2	0.62	0.89	54.7
9	R2	53	3.0	0.394	37.9	LOS C	1.4	9.8	0.90	1.01	38.3
Approach		684	3.0	0.646	12.1	LOS A	6.6	47.2	0.64	0.90	53.0
West: Horse Park Drive 2											
10	L2	34	5.0	0.037	7.6	LOS A	0.1	0.8	0.12	0.58	59.0
11	T1	577	5.0	0.153	0.0	LOS A	0.0	0.0	0.00	0.00	79.9
Approach		611	5.0	0.153	0.4	LOS A	0.1	0.8	0.01	0.03	78.4
All Vehicles		1751	4.2	0.646	5.2	NA	6.6	47.2	0.26	0.38	65.6

Level of Service (LOS) Method: Delay (RTA NSW).
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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
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: HPD2 - Taylor LiLo - Conversion

Horse Park Drive / Taylor LiLo Access
2031
AM Peak
Signals - Fixed Time Cycle Time = 80 seconds (Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Horse Park Drive 2											
5	T1	874	5.0	0.887	42.2	LOS C	20.3	148.3	1.00	1.08	35.4
6	R2	44	5.0	0.110	32.5	LOS C	1.4	10.2	0.83	0.72	38.2
Approach		918	5.0	0.887	41.7	LOS C	20.3	148.3	0.99	1.06	35.5
North: Taylor Left In Left Out access											
7	L2	407	3.0	0.910	47.8	LOS D	27.6	198.5	1.00	1.14	33.4
9	R2	214	3.0	0.910	47.7	LOS D	27.6	198.5	1.00	1.14	33.0
Approach		621	3.0	0.910	47.8	LOS D	27.6	198.5	1.00	1.14	33.3
West: Horse Park Drive 2											
10	L2	24	5.0	0.486	37.8	LOS C	7.9	57.9	0.88	0.78	38.6
11	T1	461	5.0	0.486	29.6	LOS C	8.1	59.2	0.89	0.76	40.2
Approach		485	5.0	0.486	30.0	LOS C	8.1	59.2	0.89	0.77	40.1
All Vehicles		2024	4.4	0.910	40.8	LOS C	27.6	198.5	0.97	1.01	35.7

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P2	East Full Crossing	53	32.5	LOS D	0.1	0.1	0.90	0.90
P3	North Full Crossing	53	26.5	LOS C	0.1	0.1	0.81	0.81
P4	West Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	31.1	LOS D			0.88	0.88

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: HPD - West Access 2031

Horse Park Drive / West Access
2031
AM peak
Signals - Fixed Time Cycle Time = 100 seconds (Practical Cycle Time)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Moncrieff											
1	L2	181	3.0	0.436	26.4	LOS B	6.8	48.6	0.84	0.81	44.7
2	T1	65	3.0	0.436	20.8	LOS B	6.8	48.6	0.84	0.81	42.7
3	R2	71	3.0	0.194	41.9	LOS C	2.9	20.8	0.87	0.75	36.9
Approach		317	3.0	0.436	28.7	LOS C	6.8	48.6	0.85	0.80	42.3
East: Horse Park Drive 2											
4	L2	7	5.0	0.007	14.2	LOS A	0.1	0.9	0.41	0.63	53.5
5	T1	464	5.0	0.561	31.5	LOS C	12.4	90.4	0.87	0.73	47.3
6	R2	286	5.0	0.803	51.5	LOS D	14.3	104.4	0.99	0.90	34.3
Approach		758	5.0	0.803	38.9	LOS C	14.3	104.4	0.91	0.79	41.4
North: Taylor Access											
7	L2	564	3.0	0.474	10.3	LOS A	9.9	71.2	0.49	0.71	54.4
8	T1	11	3.0	0.474	4.7	LOS A	9.9	71.2	0.49	0.71	51.4
9	R2	302	3.0	0.831	53.7	LOS D	15.8	113.7	1.00	0.94	33.0
Approach		877	3.0	0.831	25.2	LOS B	15.8	113.7	0.67	0.79	44.5
West: Horse Park Drive 2											
10	L2	145	5.0	0.131	10.6	LOS A	1.8	13.1	0.33	0.68	56.5
11	T1	304	5.0	0.805	49.0	LOS D	10.3	75.5	0.99	0.86	38.6
12	R2	20	5.0	0.186	58.3	LOS E	1.0	7.2	0.98	0.70	32.2
Approach		469	5.0	0.805	37.5	LOS C	10.3	75.5	0.78	0.80	42.4
All Vehicles		2421	4.0	0.831	32.3	LOS C	15.8	113.7	0.79	0.79	42.8

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate per ped
P1	South Full Crossing	53	30.5	LOS D	0.1	0.1	0.78	0.78
P2	East Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P3	North Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		211	40.8	LOS E			0.90	0.90

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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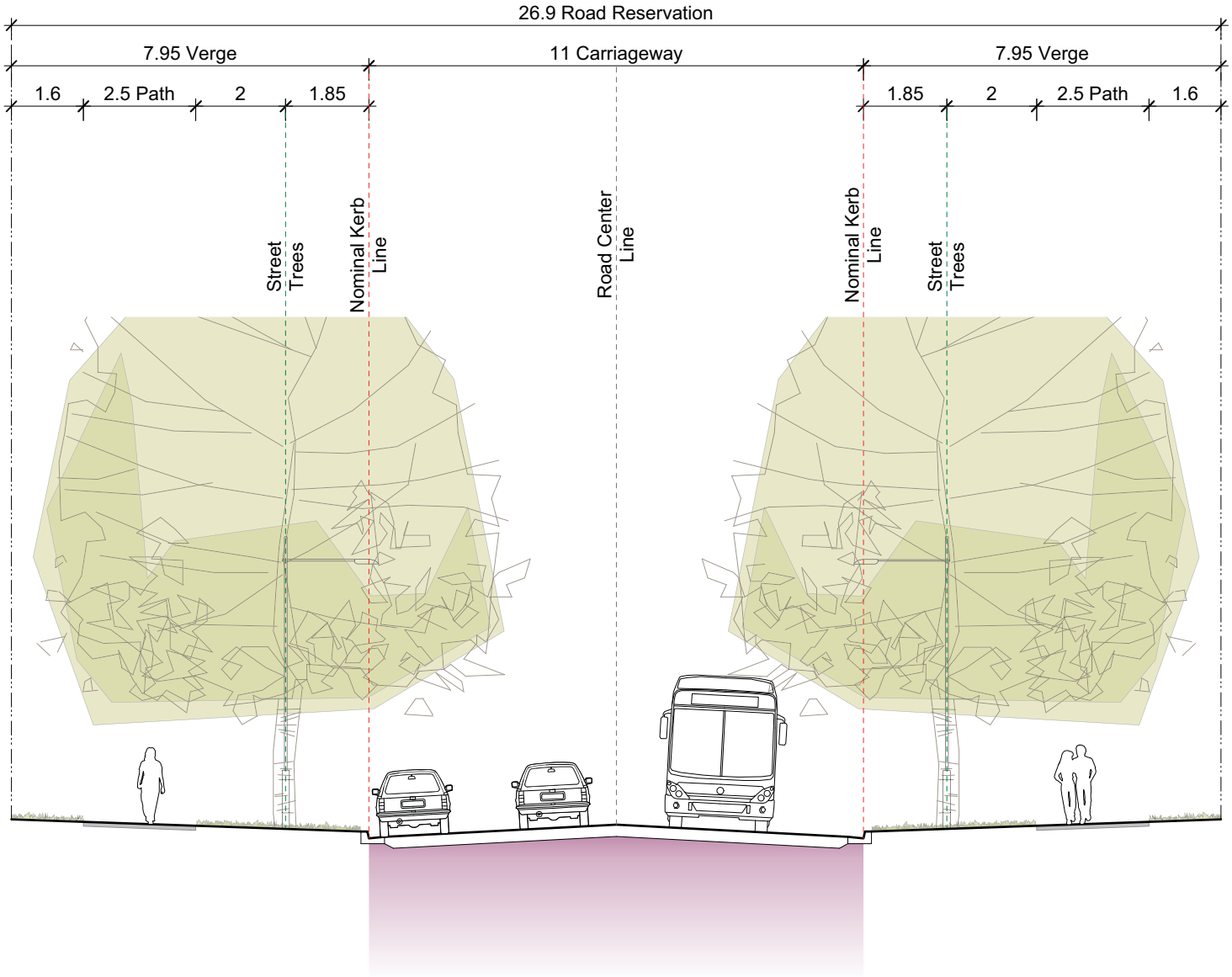
8000134, 6017787, INDESCO, PLUS / 1PC

Attachment 5

Street Cross Sections



Minor Collector

Vehicles per day	1001-3000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	Yes
Parking	Informal

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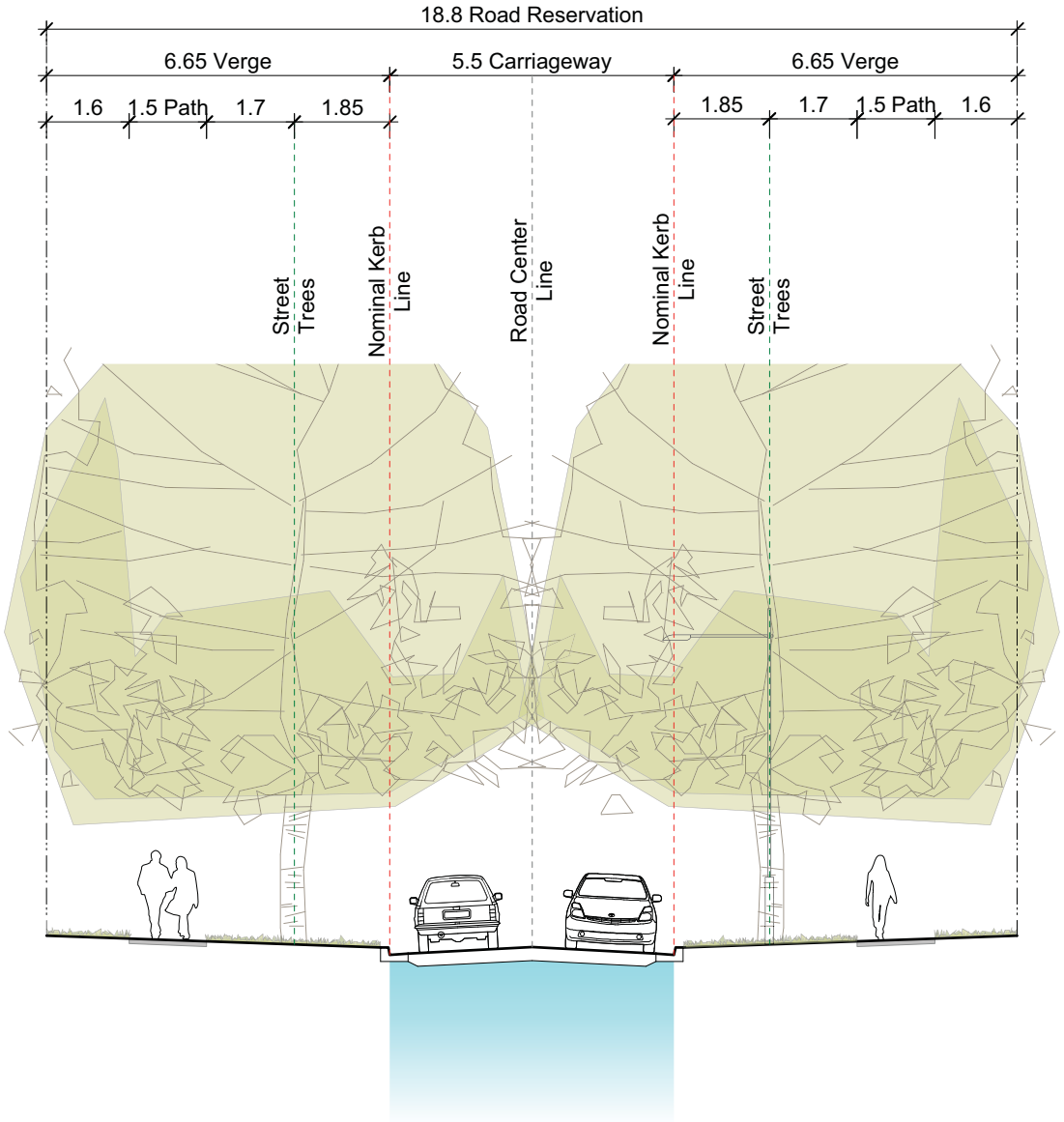
Taylor Master Plan

Typical Street Section Minor Collector

Scale at A3	Date	Revision	Drawing Number
1:100	24/8/15	C	**SK-007**



Access A

Vehicles per day	0-300
Design speed	50km/h
Posted speed	40km/h
Bus Capable	No
Parking	Informal one side only

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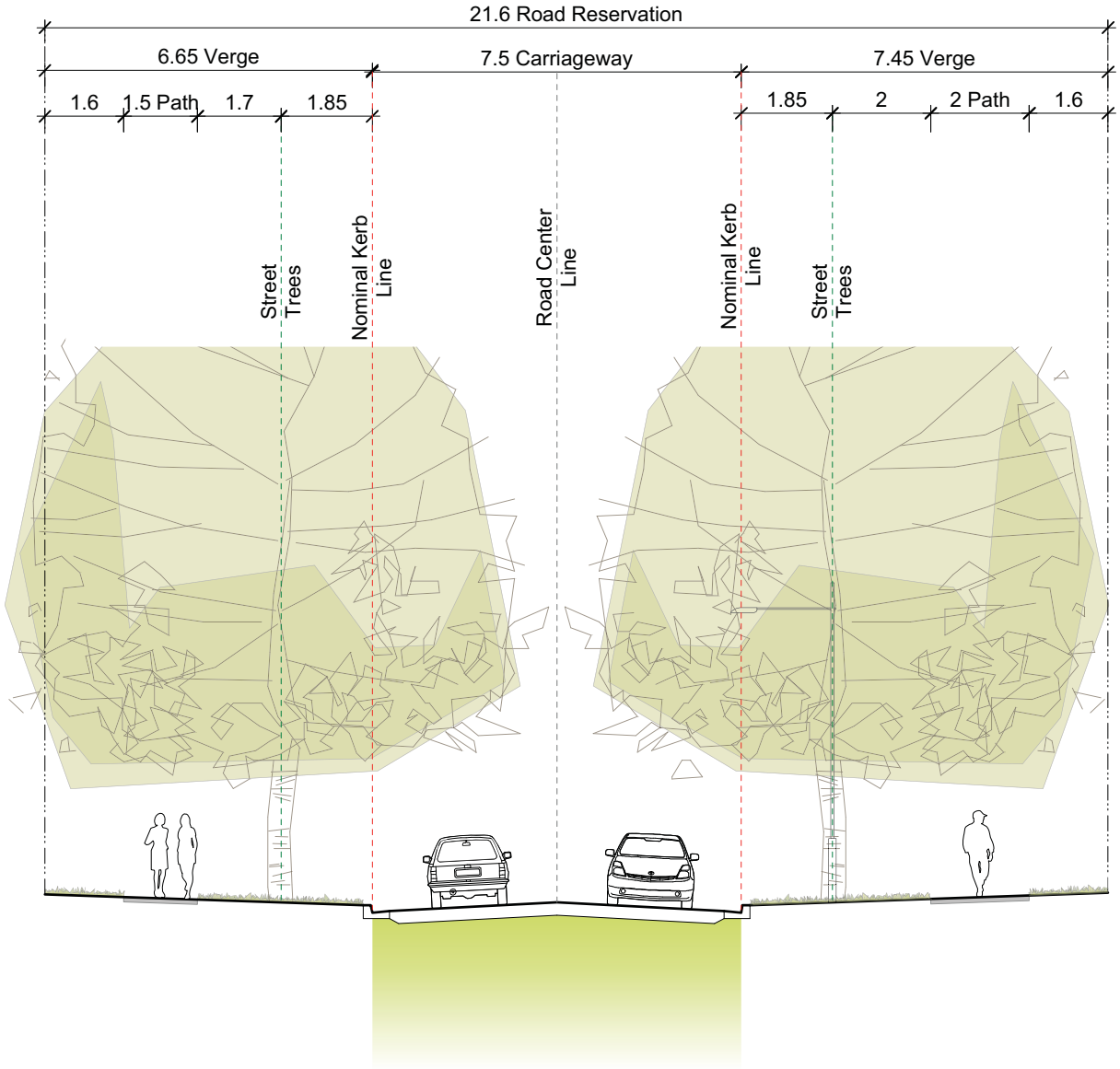
Taylor Master Plan

Typical Street Section Access A

Scale at A3	Date	Revision	Drawing Number
1:100	18/8/15	B	**SK-009**



Access B

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	No
Parking	Informal

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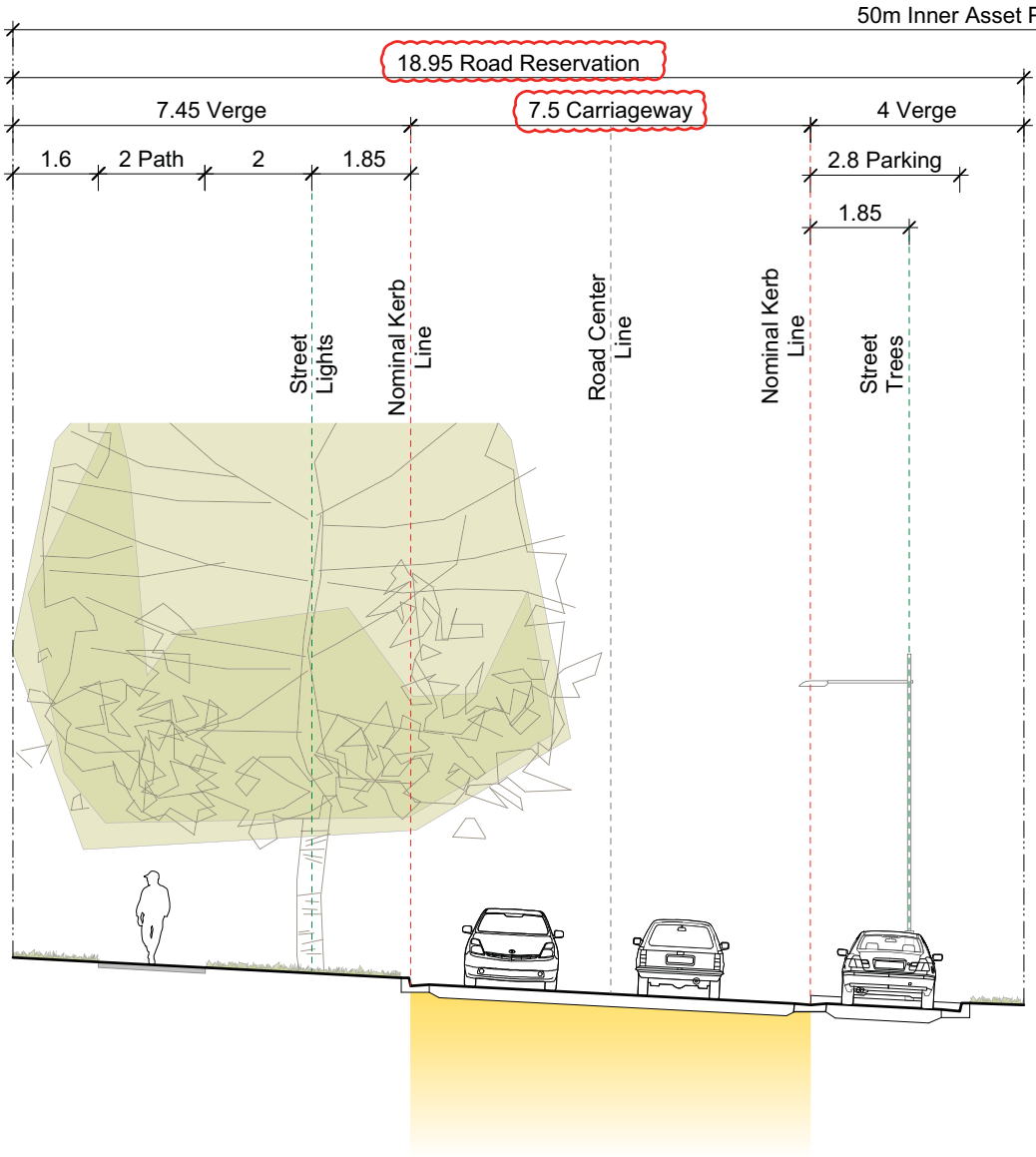
Taylor Master Plan
Typical Street Section
Access B

Scale at A3	Date	Revision	Drawing Number
1:100	25/8/15	C	**SK-010**



Edge Road (Access B)

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
ESA Capable	Yes
Parking	Formal

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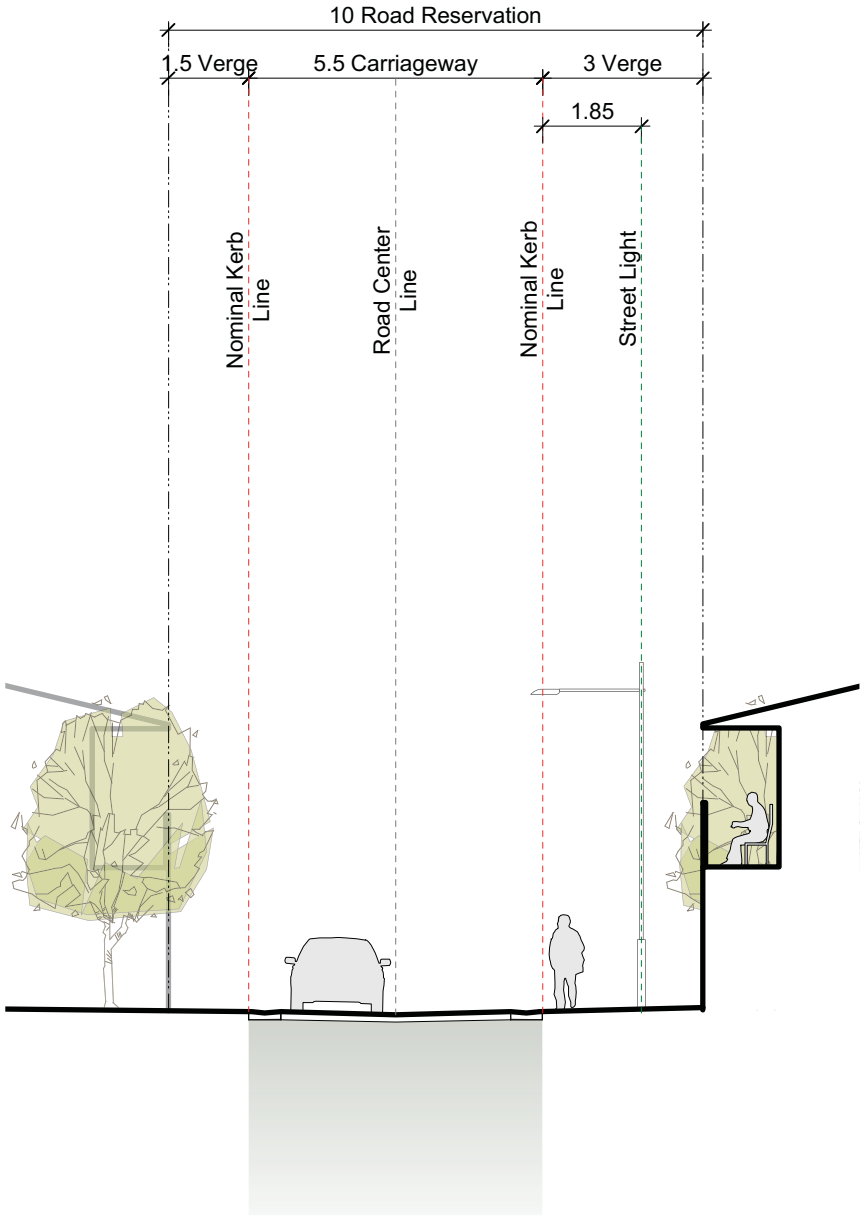
Typical Street Section Edge Road

Scale at A3	Date	Revision	Drawing Number
1:100	3/9/15	C	**SK-011**



Rear Lane

Vehicles per day	0-160
Design speed	20km/h
Posted speed	10km/h
Bus Capable	No
Parking	No

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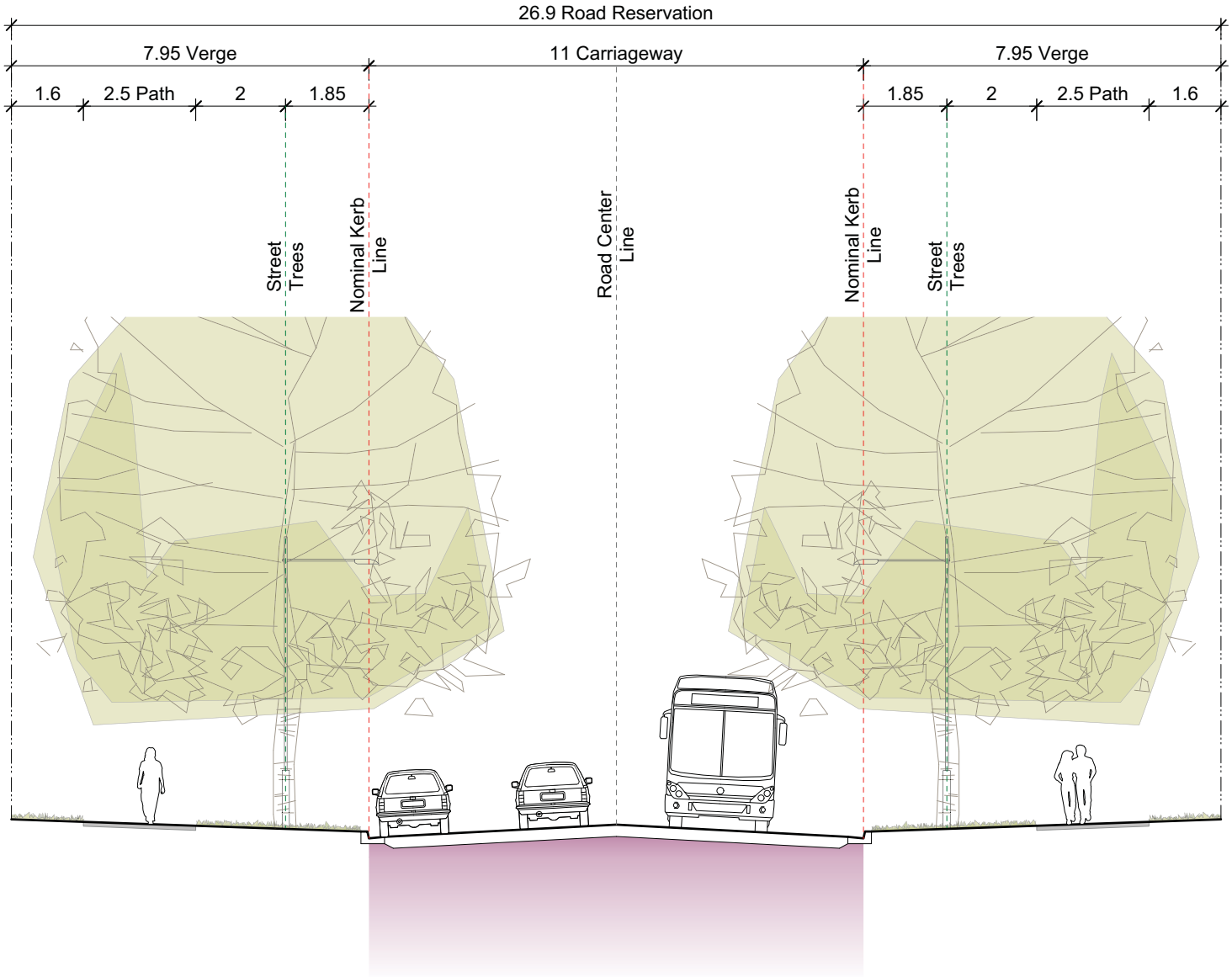
Taylor Master Plan
Typical Street Section
Rear Lane

Scale at A3	Date	Revision	Drawing Number
1:100	10/3/15	A	**SK-012**



Minor Collector

Vehicles per day	1001-3000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	Yes
Parking	Informal

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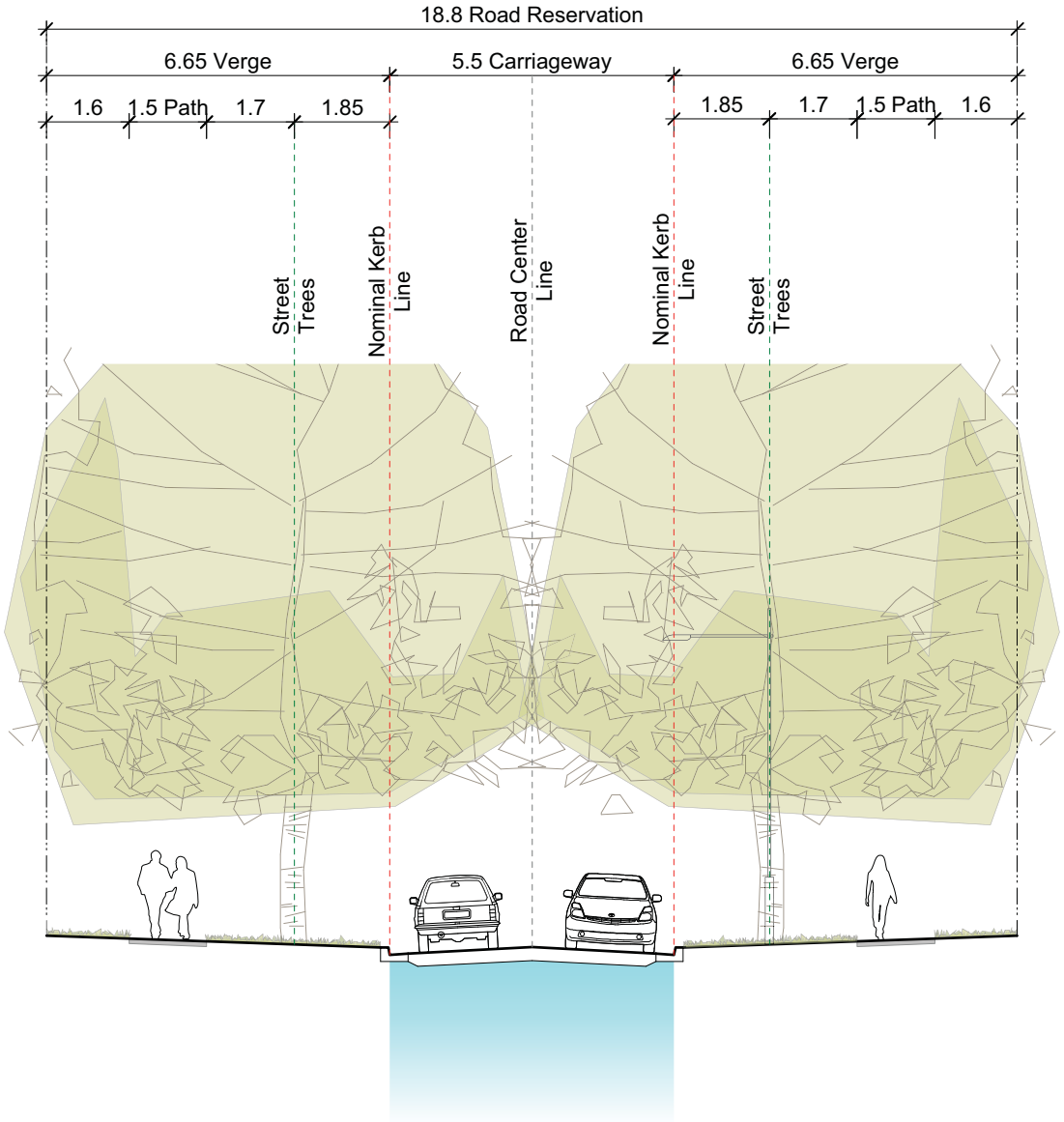
Taylor Master Plan

Typical Street Section Minor Collector

Scale at A3	Date	Revision	Drawing Number
1:100	24/8/15	C	**SK-007**



Access A

Vehicles per day	0-300
Design speed	50km/h
Posted speed	40km/h
Bus Capable	No
Parking	Informal one side only

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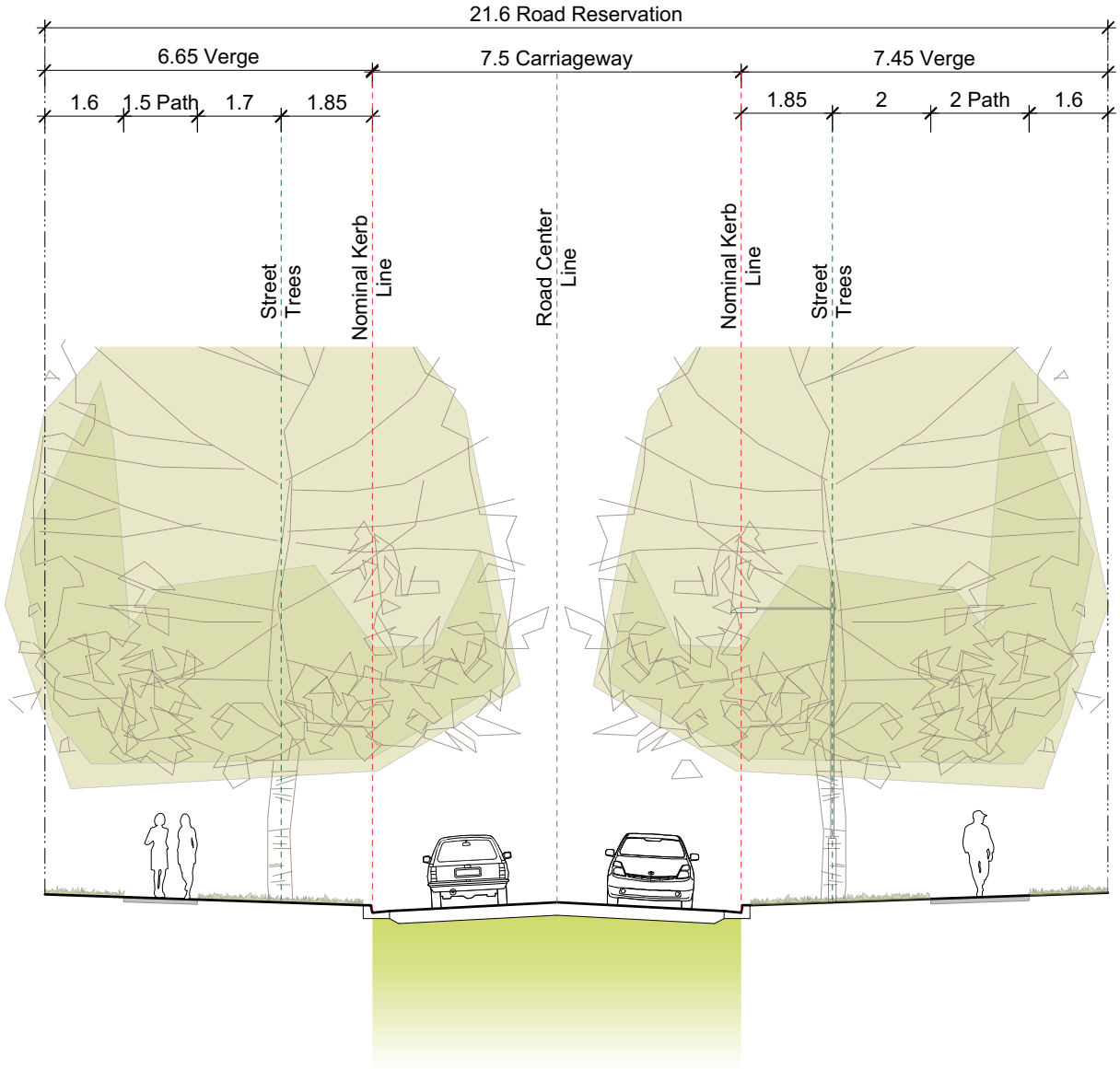
Taylor Master Plan

Typical Street Section Access A

Scale at A3	Date	Revision	Drawing Number
1:100	18/8/15	B	**SK-009**



Access B

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	No
Parking	Informal

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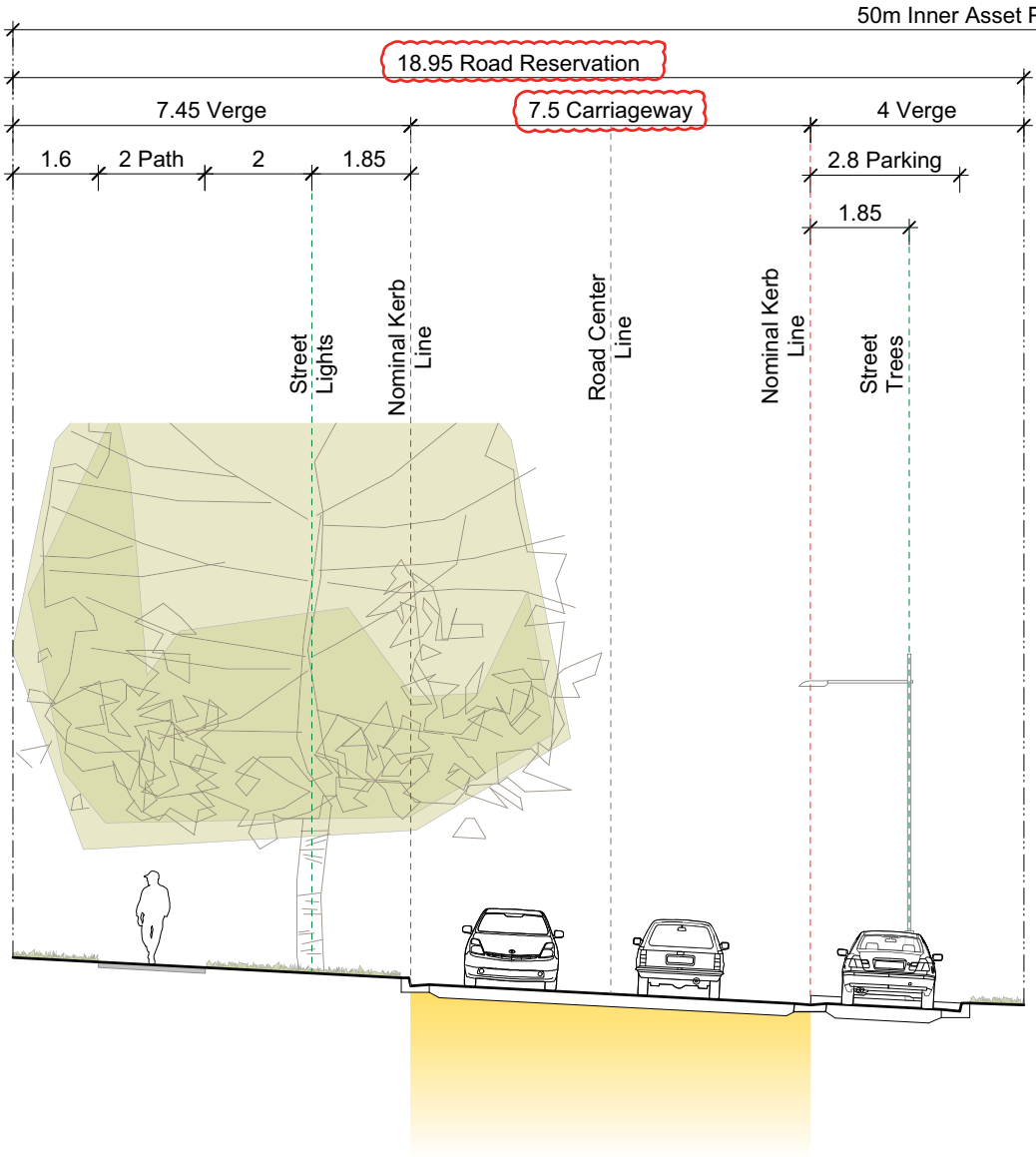
Taylor Master Plan
Typical Street Section
Access B

Scale at A3	Date	Revision	Drawing Number
1:100	25/8/15	C	**SK-010**



Edge Road (Access B)

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
ESA Capable	Yes
Parking	Formal

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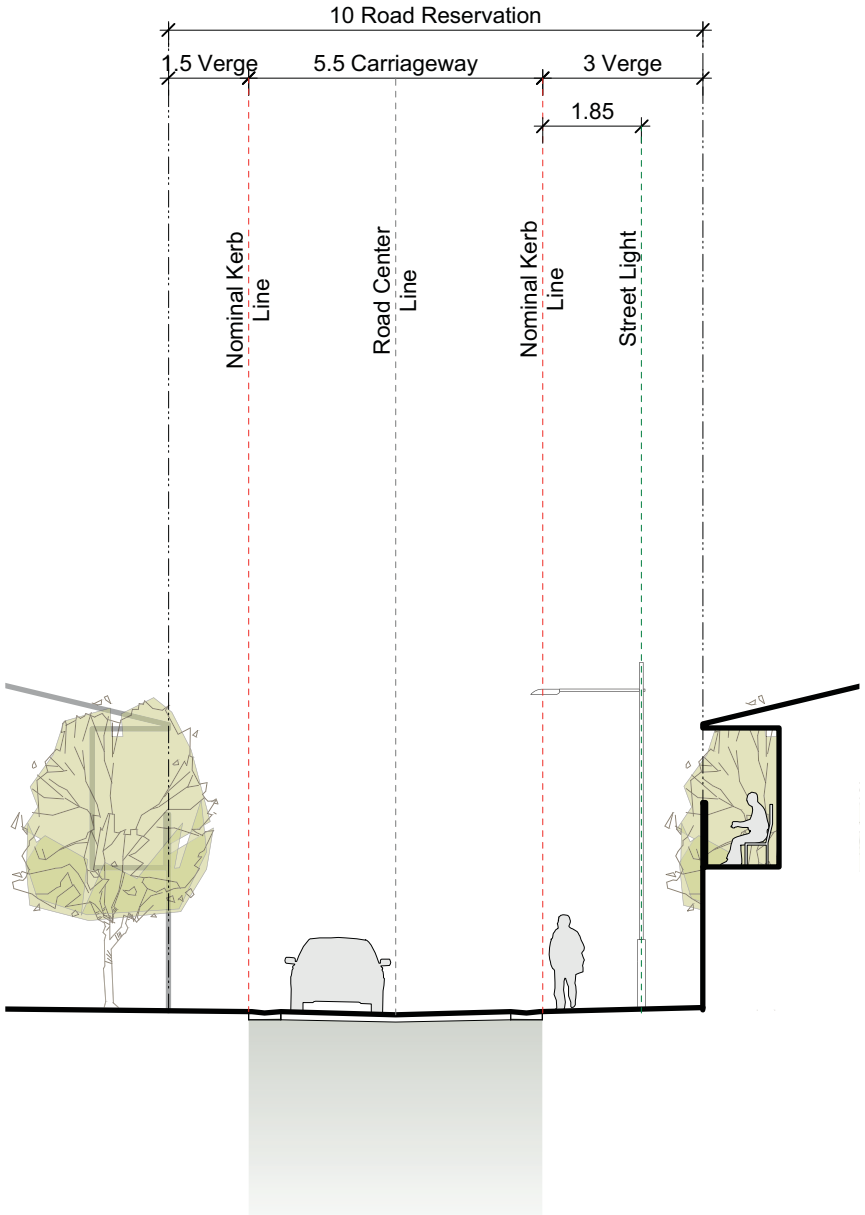
Taylor Master Plan

Typical Street Section Edge Road

Scale at A3	Date	Revision	Drawing Number
1:100	3/9/15	C	**SK-011**



Rear Lane

Vehicles per day	0-160
Design speed	20km/h
Posted speed	10km/h
Bus Capable	No
Parking	No

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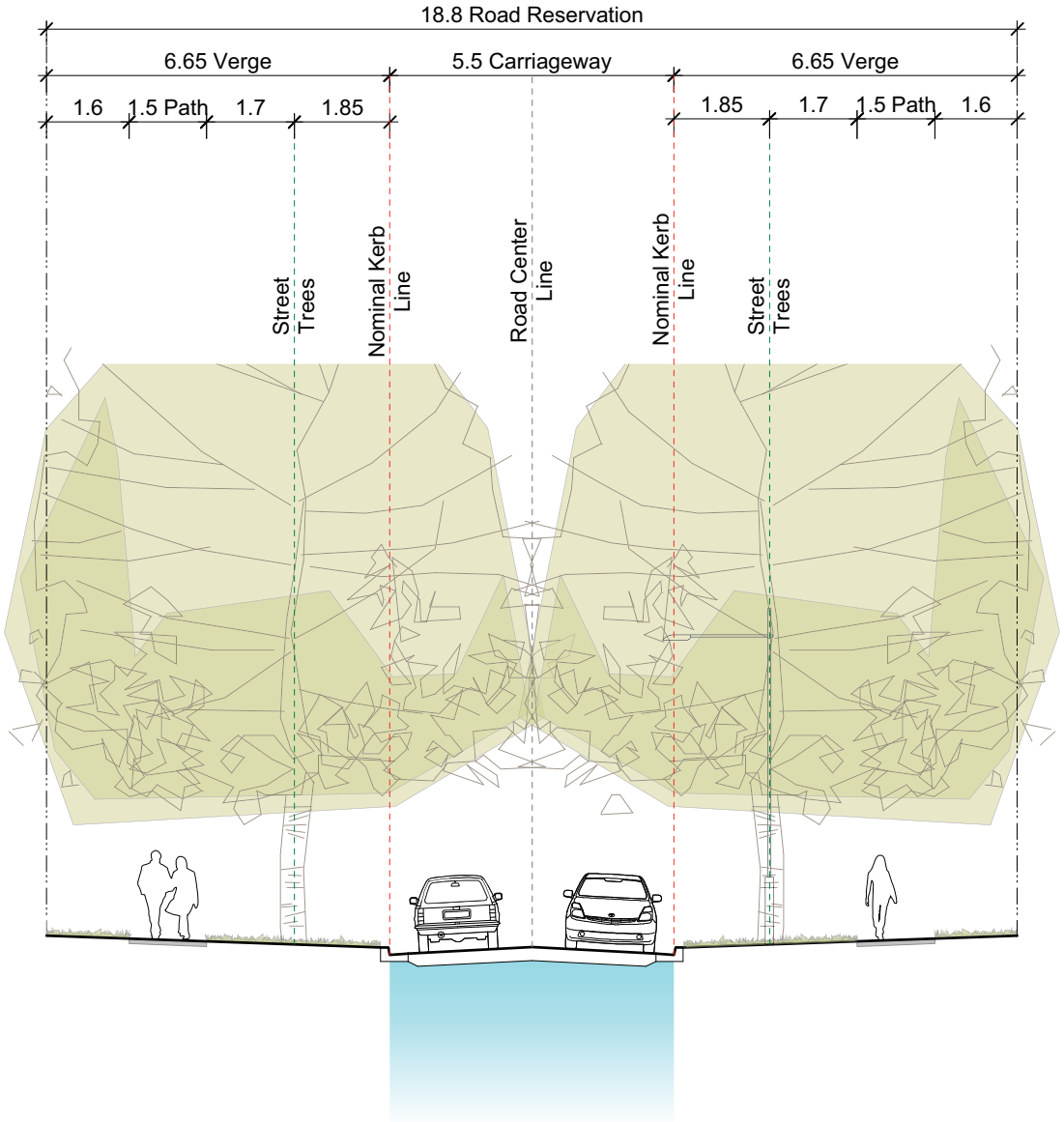
Taylor Master Plan
Typical Street Section
Rear Lane

Scale at A3	Date	Revision	Drawing Number
1:100	10/3/15	A	**SK-012**



Access A

Vehicles per day	0-300
Design speed	50km/h
Posted speed	40km/h
Bus Capable	No
Parking	Informal one side only

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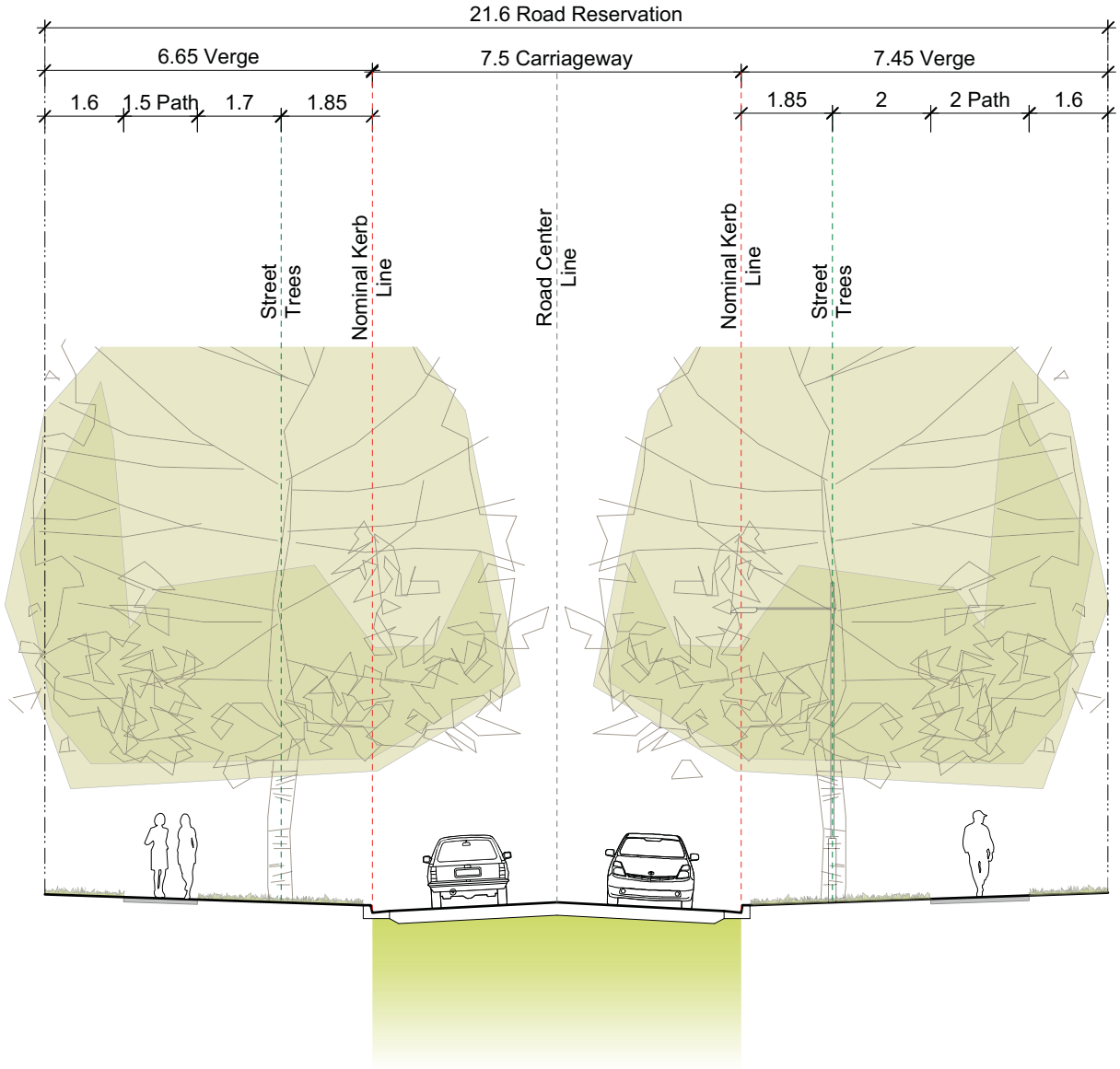
Taylor Master Plan

Typical Street Section Access A

Scale at A3	Date	Revision	Drawing Number
1:100	18/8/15	B	**SK-009**



Access B

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	No
Parking	Informal

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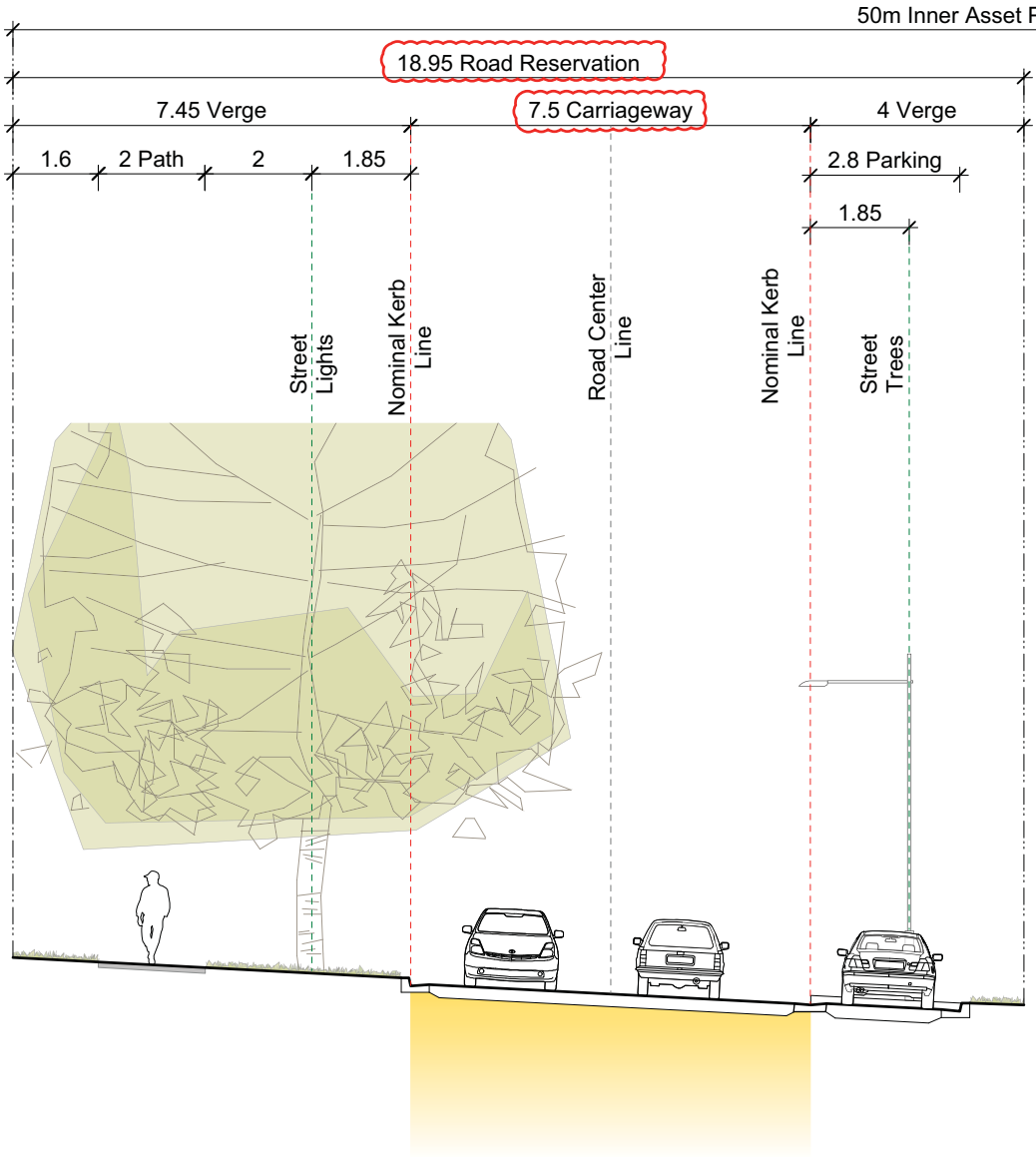
Taylor Master Plan
Typical Street Section
Access B

Scale at A3	Date	Revision	Drawing Number
1:100	25/8/15	C	**SK-010**



Edge Road (Access B)

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
ESA Capable	Yes
Parking	Formal

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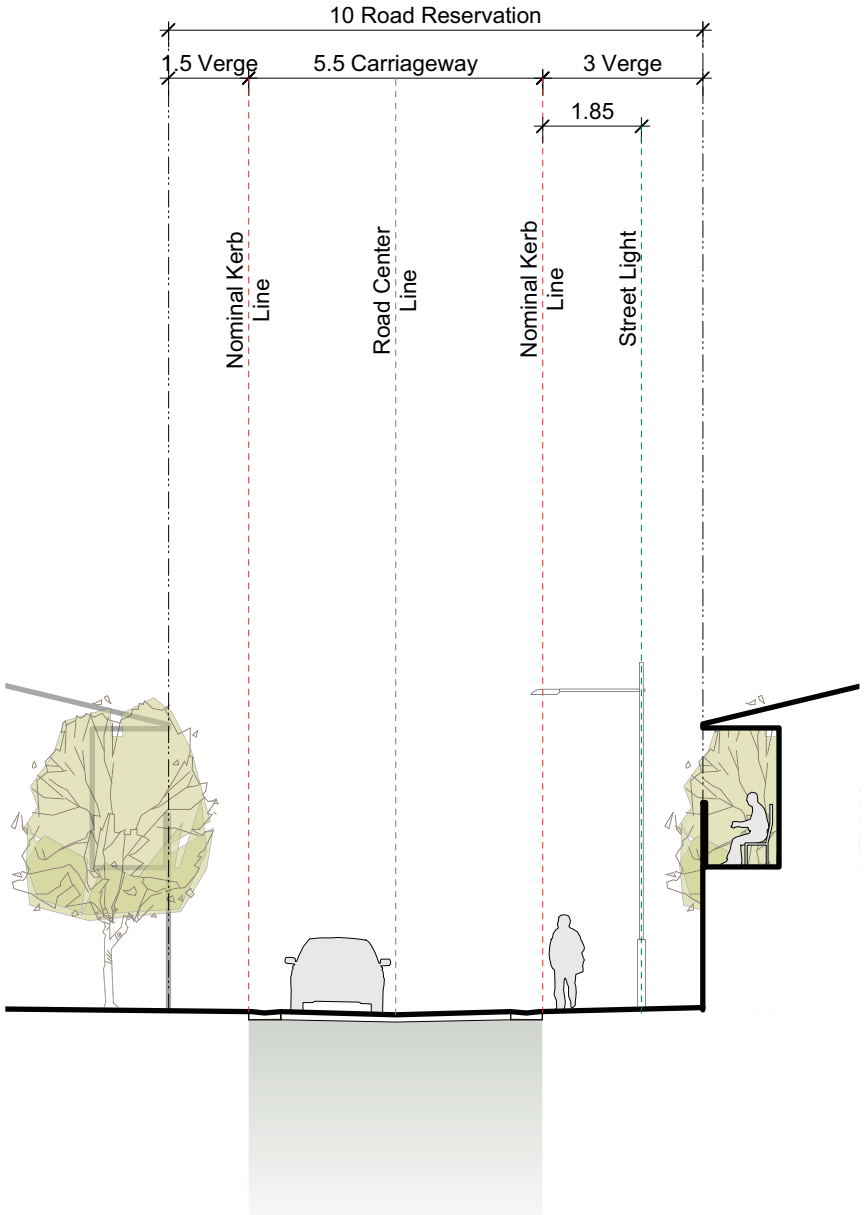
Typical Street Section Edge Road

Scale at A3	Date	Revision	Drawing Number
1:100	3/9/15	C	**SK-011**



Rear Lane

Vehicles per day	0-160
Design speed	20km/h
Posted speed	10km/h
Bus Capable	No
Parking	No

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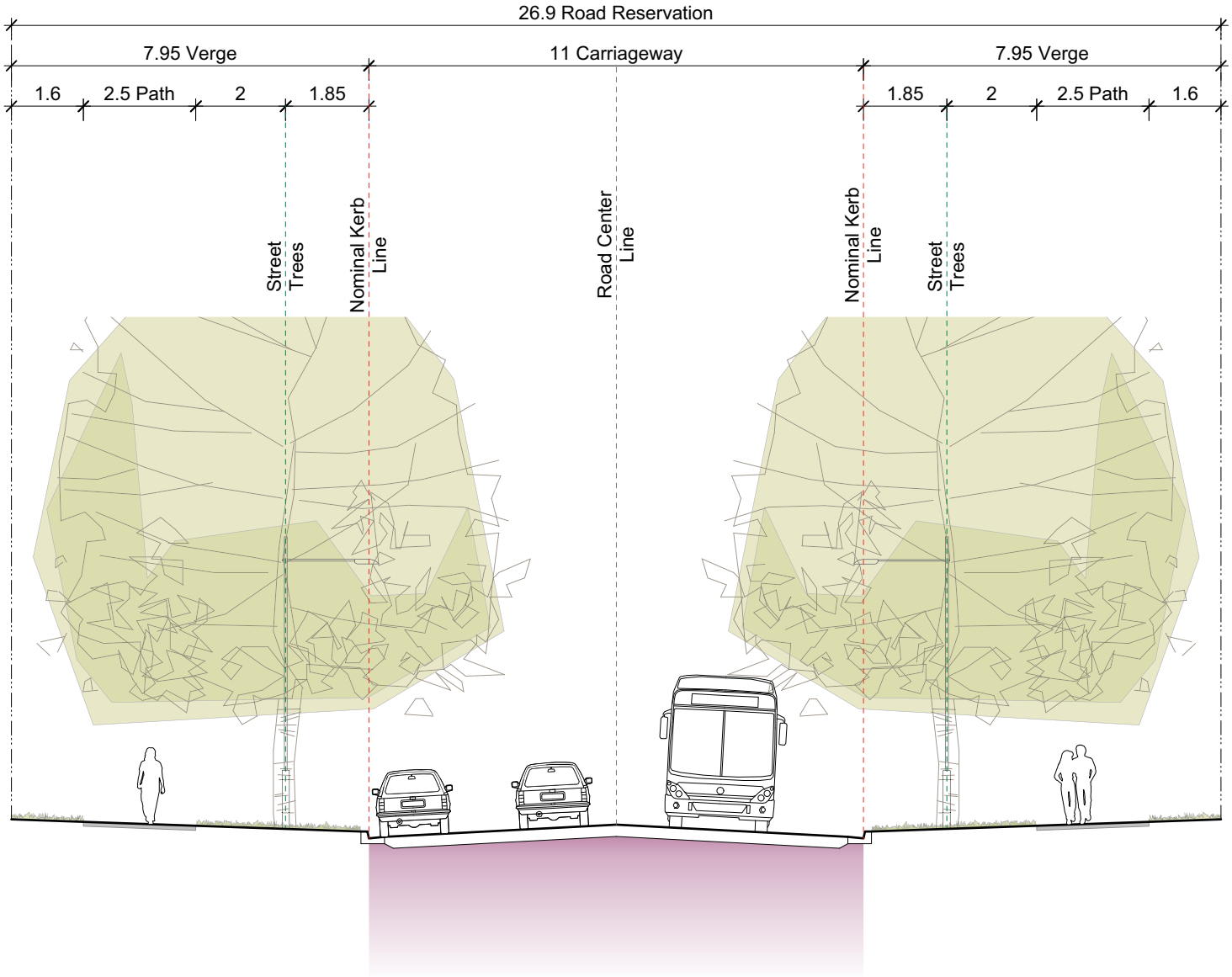
Taylor Master Plan
Typical Street Section
Rear Lane

Scale at A3	Date	Revision	Drawing Number
1:100	10/3/15	A	**SK-012**



Minor Collector

Vehicles per day	1001-3000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	Yes
Parking	Informal

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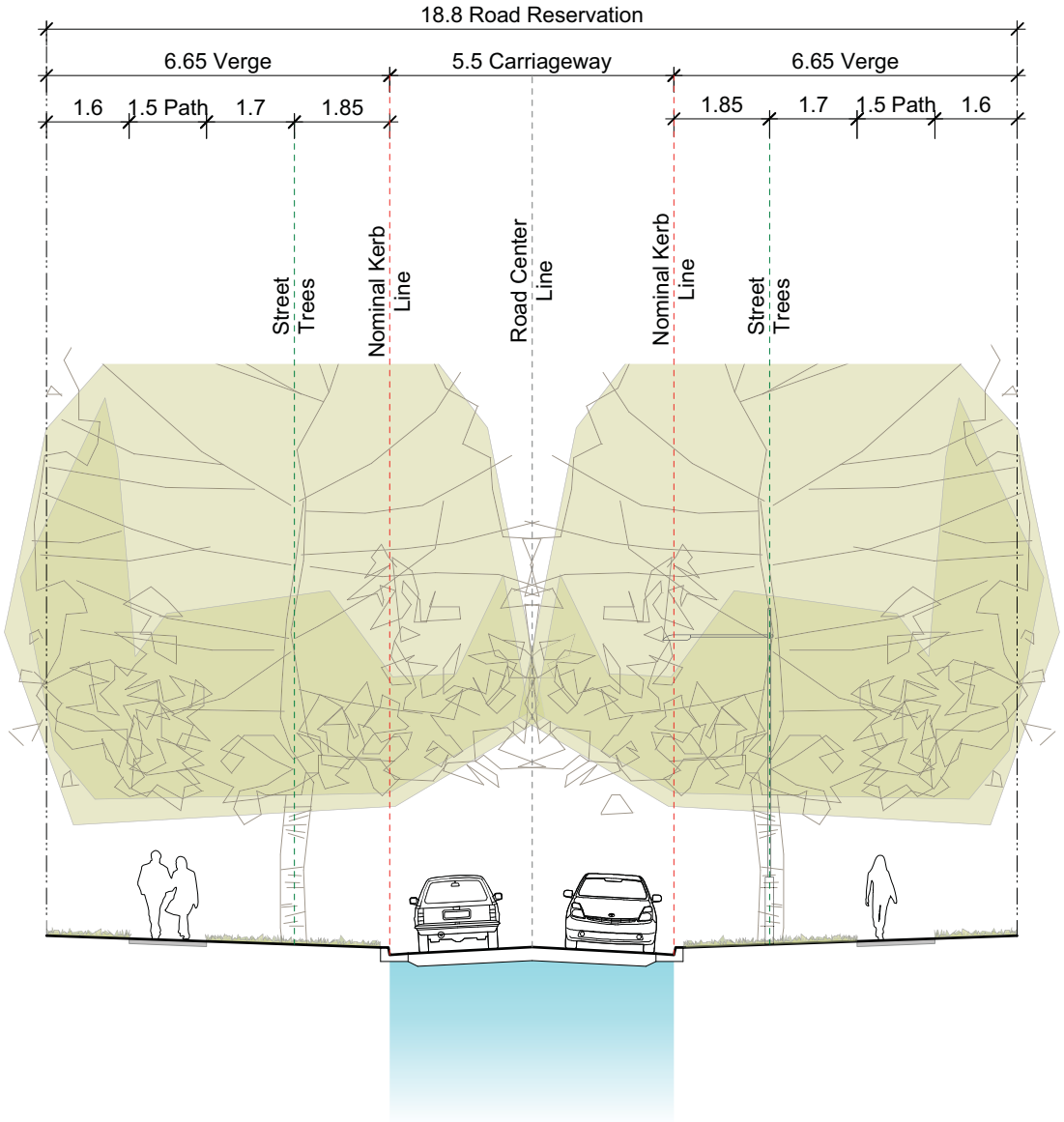
Typical Street Section Minor Collector

Scale at A3	Date	Revision	Drawing Number
1:100	24/8/15	C	**SK-007**



Access A

Vehicles per day	0-300
Design speed	50km/h
Posted speed	40km/h
Bus Capable	No
Parking	Informal one side only

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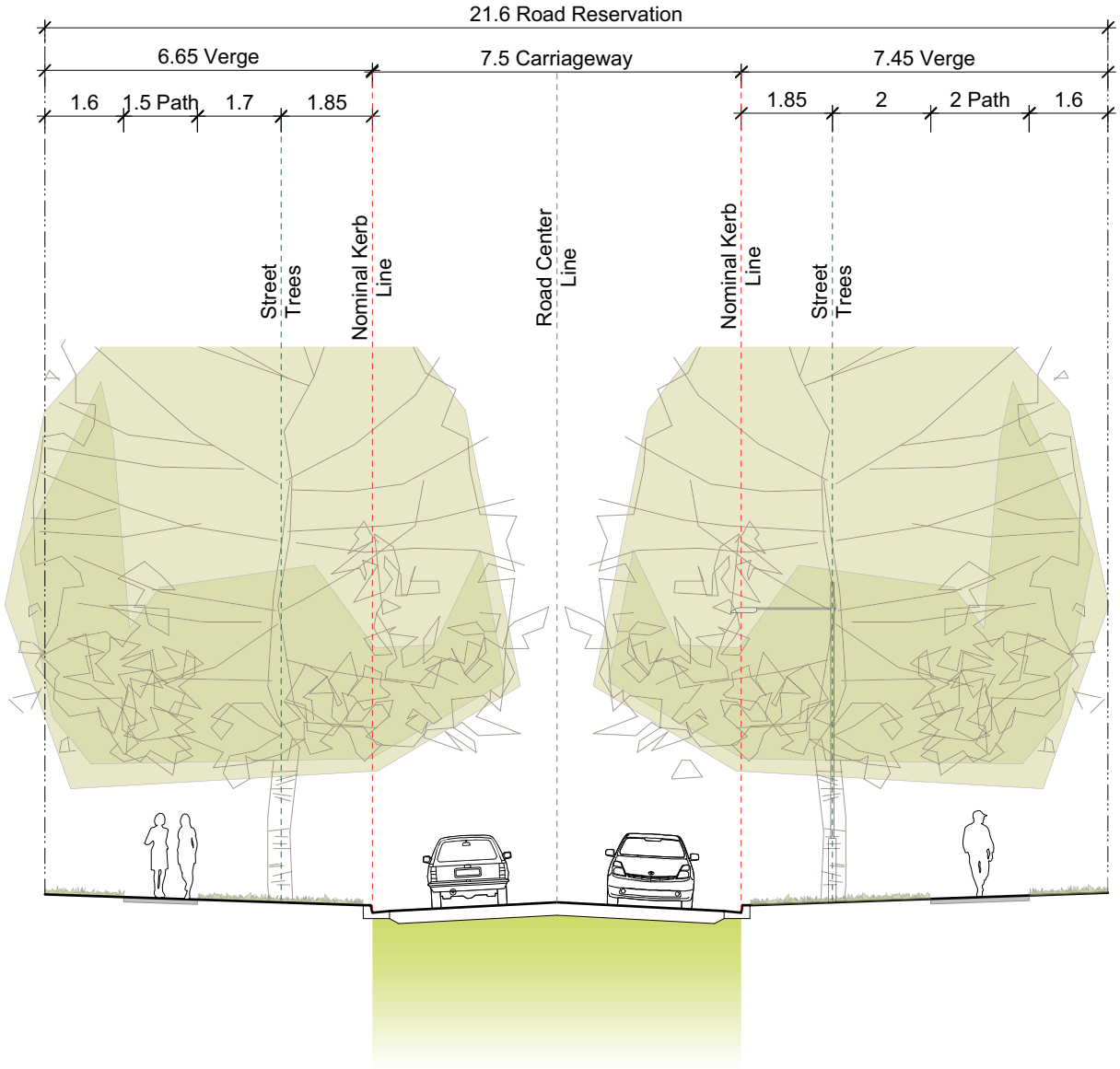
Typical Street Section Access A

Scale at A3	Date	Revision	Drawing Number
1:100	18/8/15	B	**SK-009**



Access B

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
Bus Capable	No
Parking	Informal

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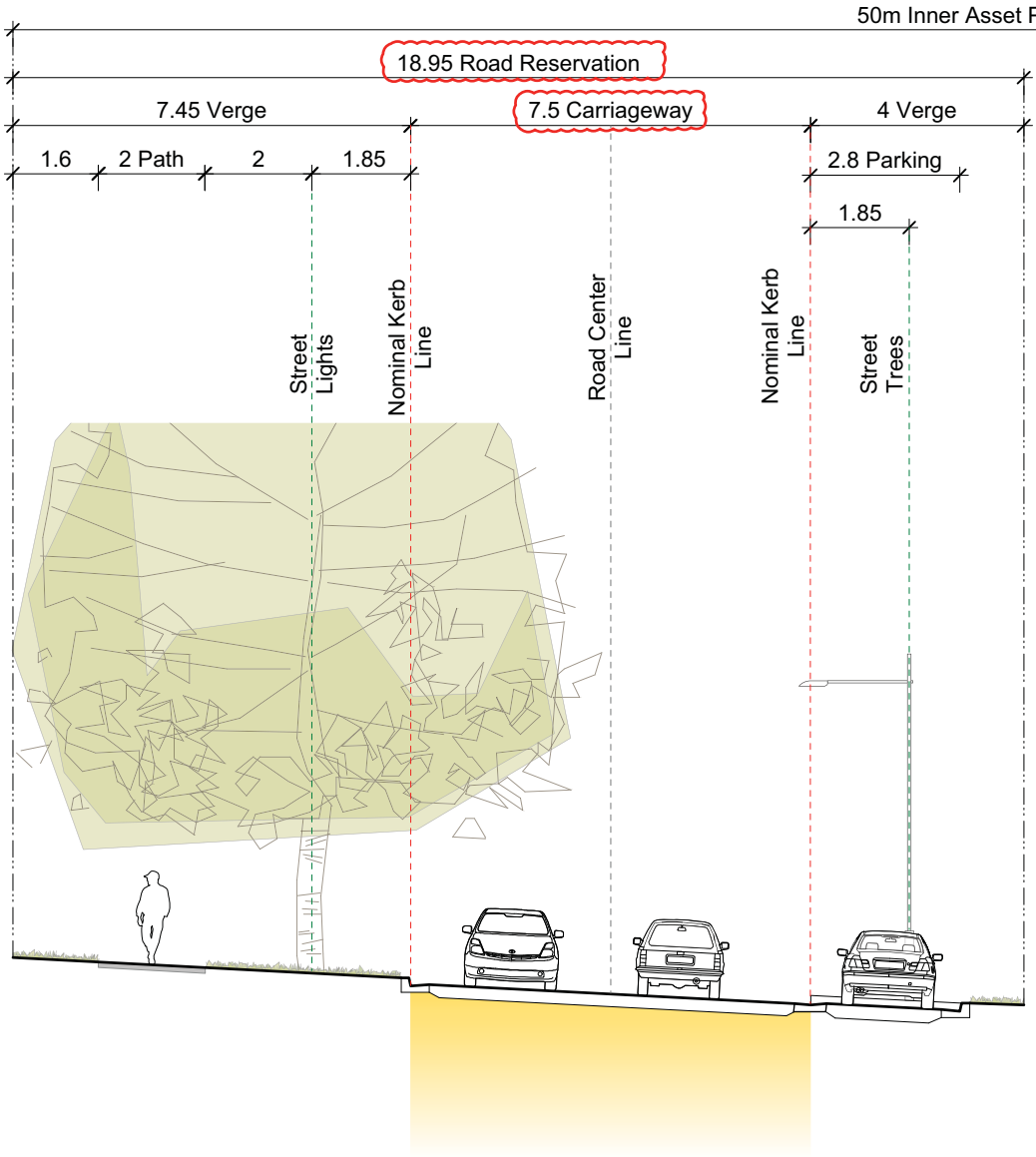
Taylor Master Plan
Typical Street Section
Access B

Scale at A3	Date	Revision	Drawing Number
1:100	25/8/15	C	**SK-010**



Edge Road (Access B)

Vehicles per day	301-1000
Design speed	60km/h
Posted speed	50km/h
ESA Capable	Yes
Parking	Formal

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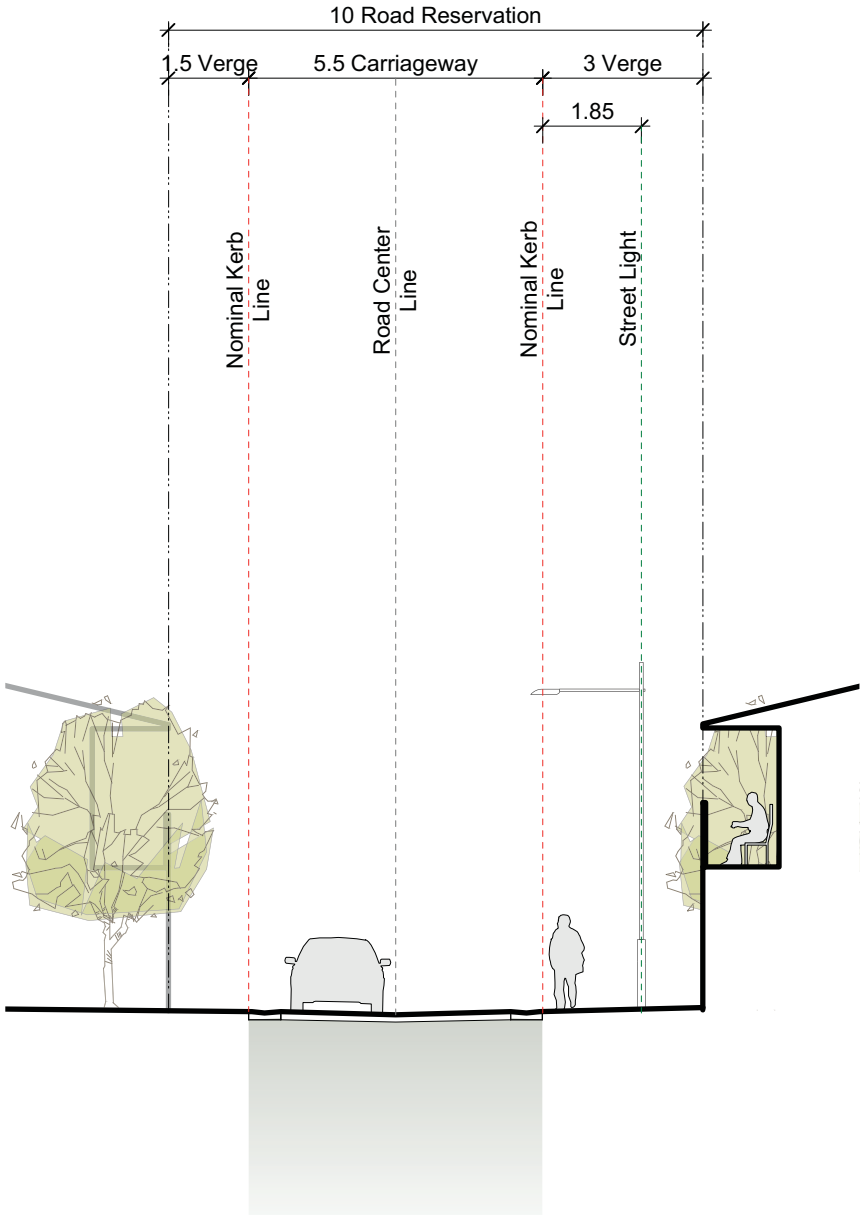
Typical Street Section Edge Road

Scale at A3	Date	Revision	Drawing Number
1:100	3/9/15	C	**SK-011**



Rear Lane

Vehicles per day	0-160
Design speed	20km/h
Posted speed	10km/h
Bus Capable	No
Parking	No

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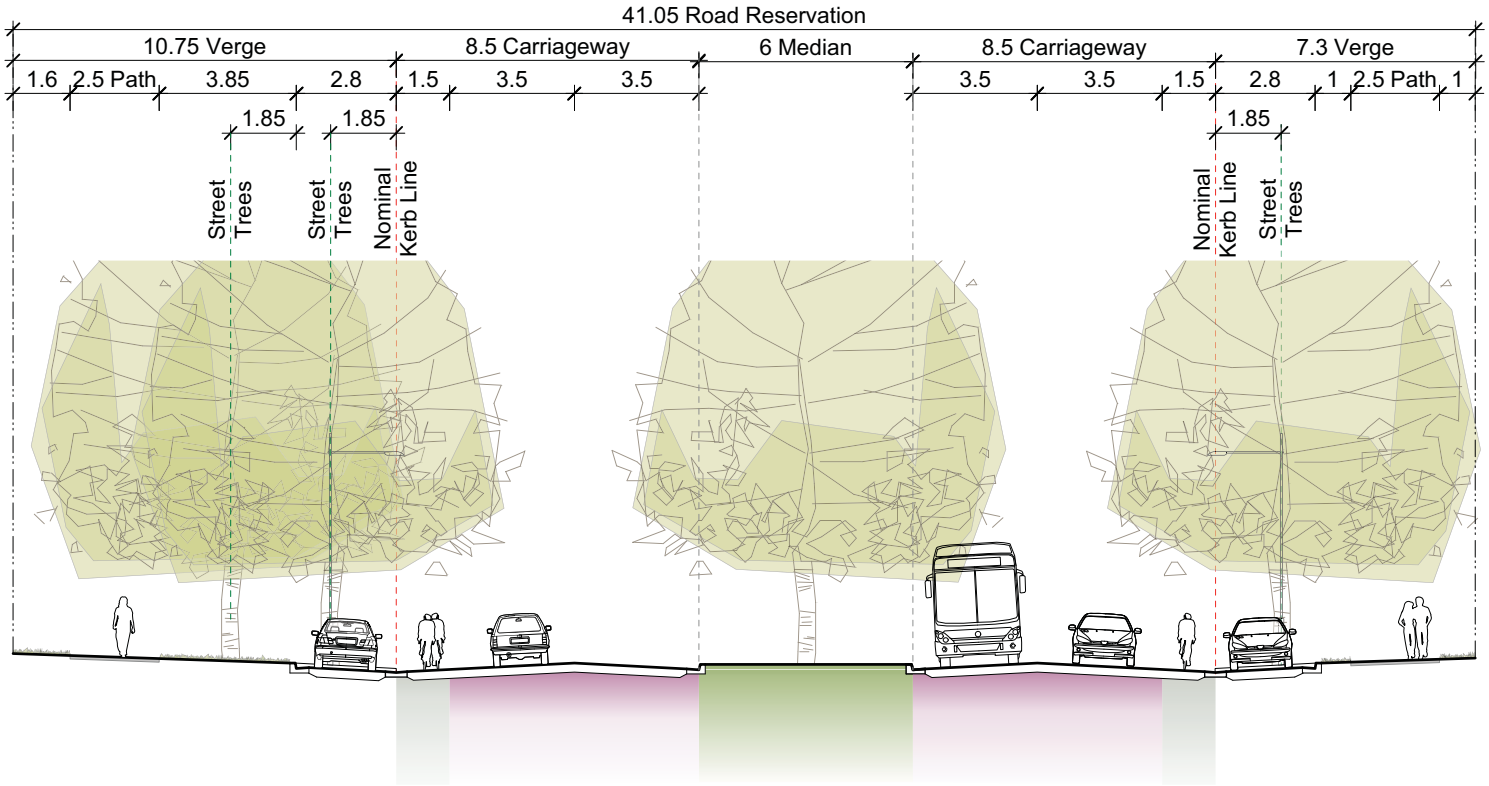
Taylor Master Plan
Typical Street Section
Rear Lane

Scale at A3	Date	Revision	Drawing Number
1:100	10/3/15	A	**SK-012**



Major Collector

Vehicles per day	3001-6000
Design speed	70km/h
Posted speed	60km/h
Bus Capable	Yes
Parking	No

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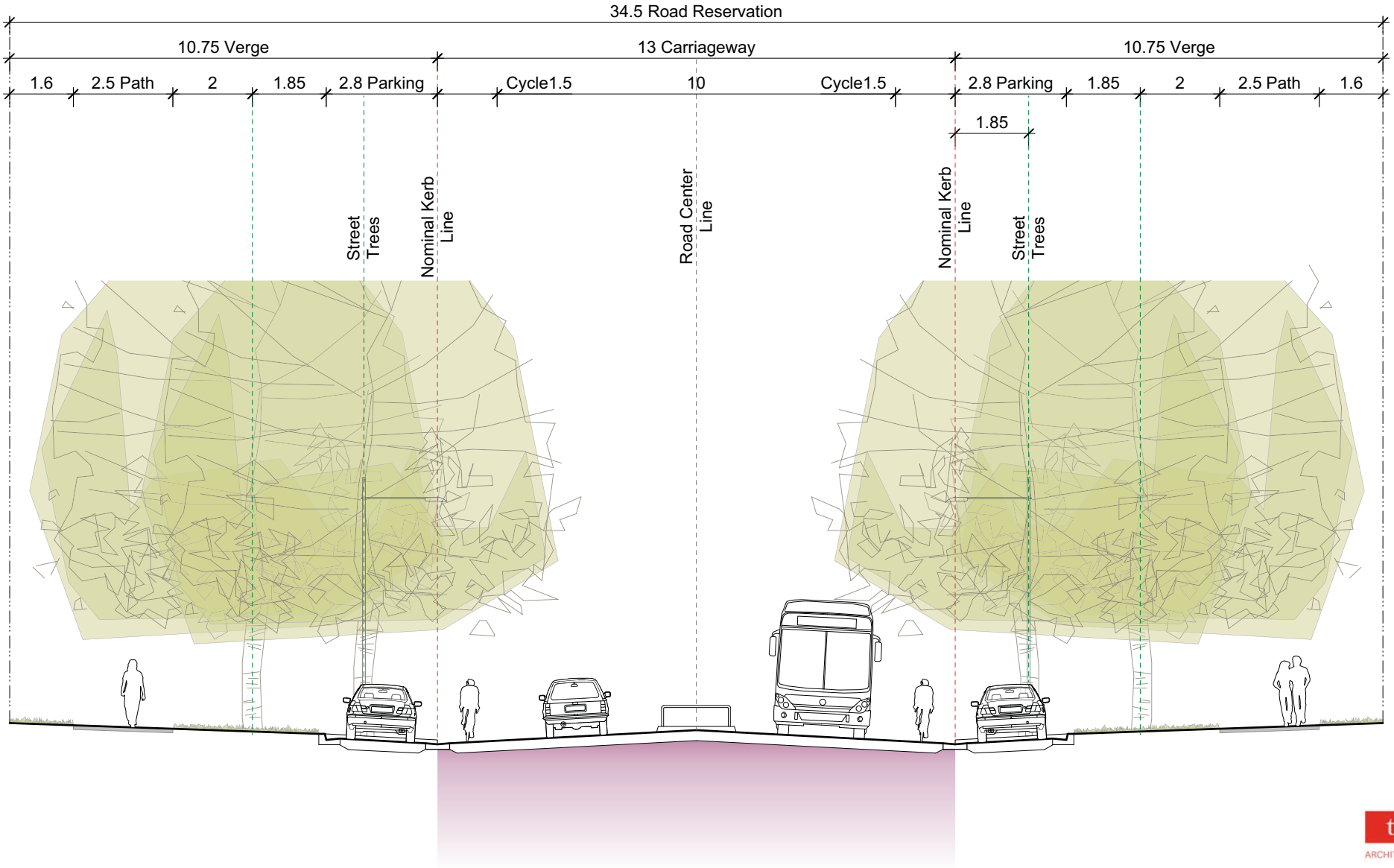
Taylor Master Plan
Major Collector
Loop Duplicated

Scale at A3	Date	Revision	Drawing Number
1:150	10/9/15	C	**SK-024**



Major Collector

Vehicles per day	3001-6000
Design speed	70km/h
Posted speed	60km/h
Bus Capable	Yes
Parking	Formal
Driveways	No

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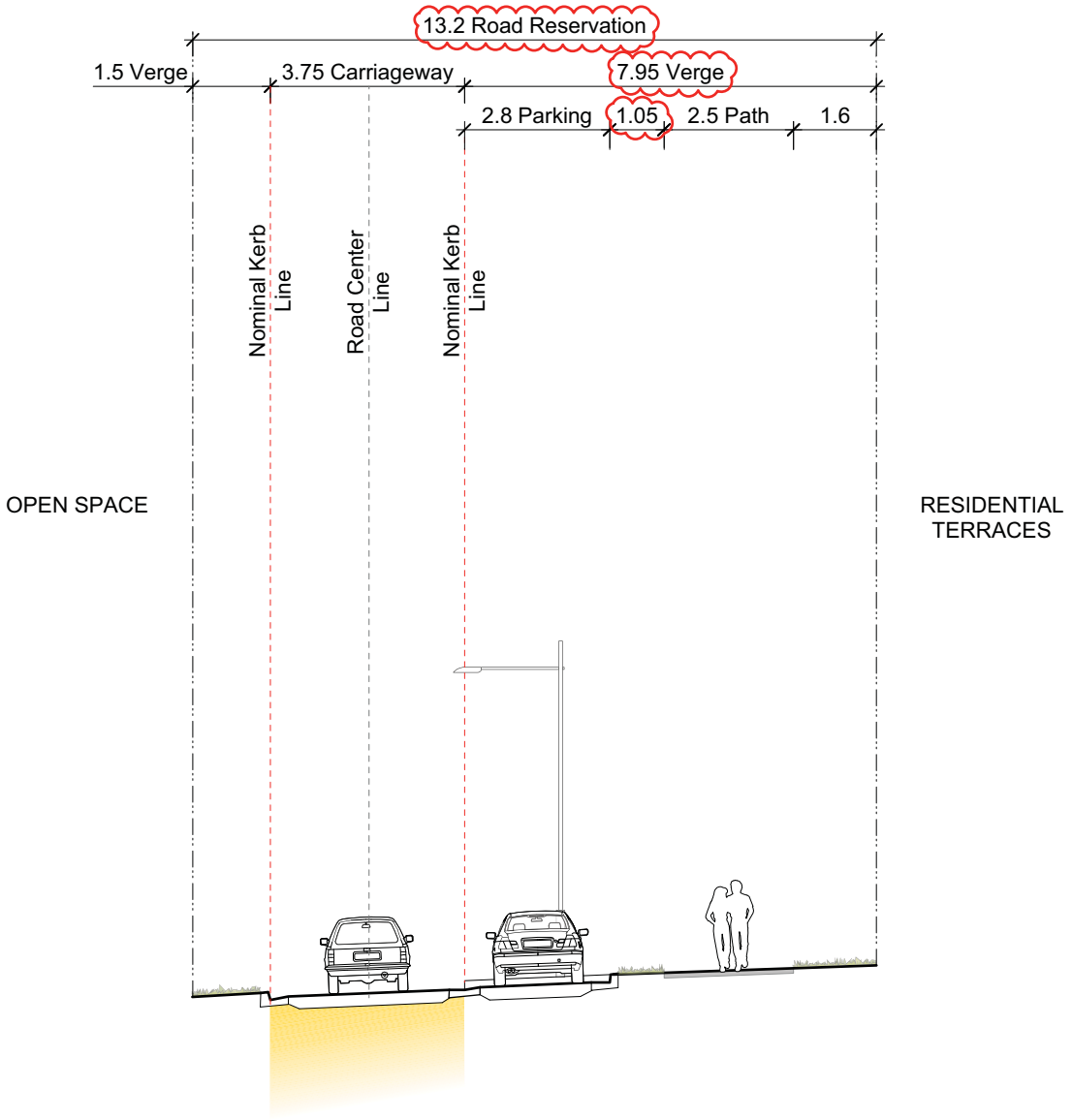
Typical Street Section Major Collector

Scale at A3	Date	Revision	Drawing Number
1:100	24/8/15	B	**SK-028**



Access A

Vehicles per day	0-300
Design speed	50km/h
Posted speed	40km/h
Bus Capable	No
Parking	Formal

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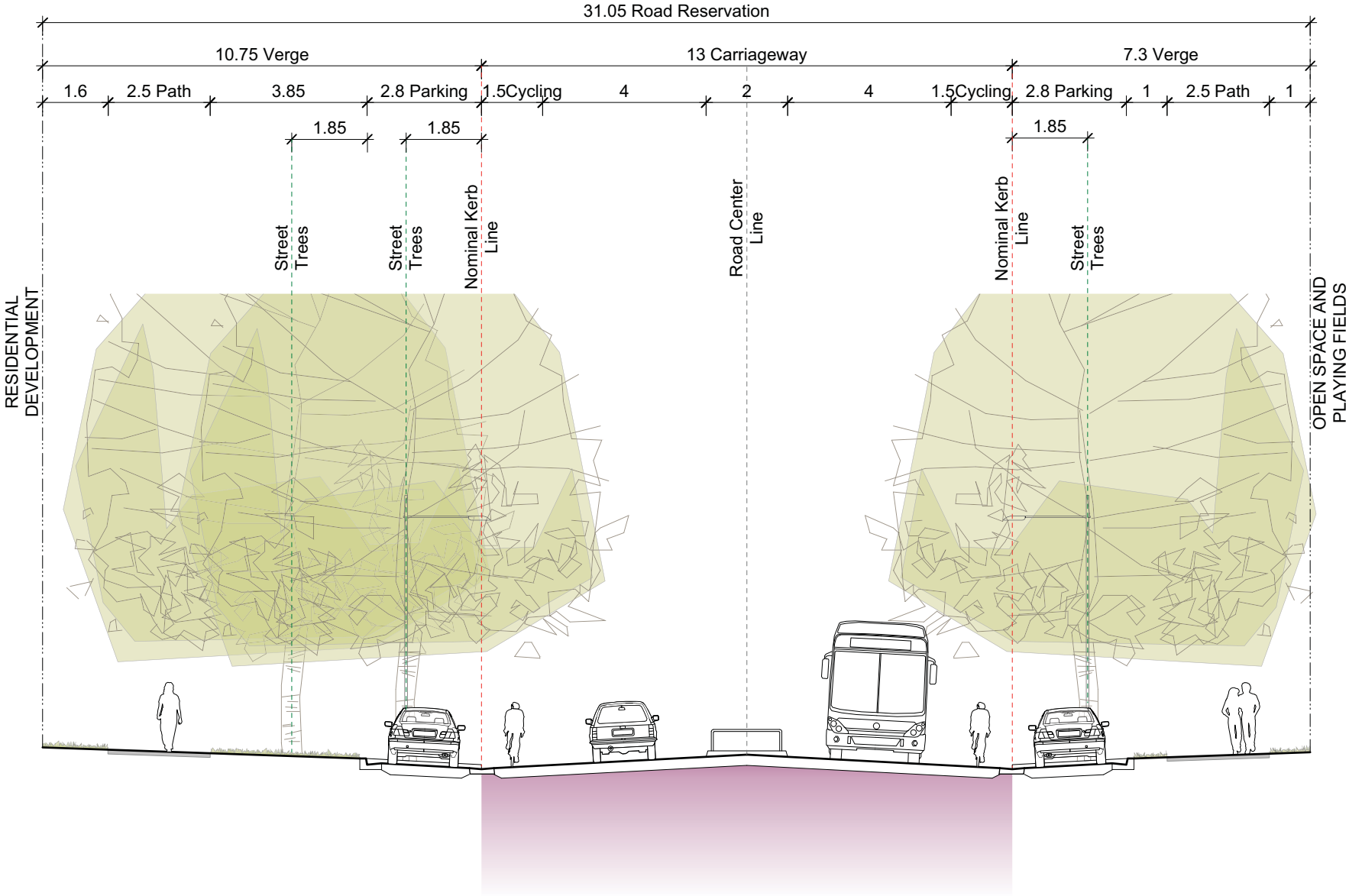
Typical Street Section
Access A One Way Loop

Scale at A3	Date	Revision	Drawing Number
1:100	7/9/15	B	**SK-031**



Major Collector

Vehicles per day	3001-6000
Design speed	70km/h
Posted speed	60km/h
Bus Capable	Yes
Parking	Formal

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Taylor Master Plan
Typical Street Section
Major Collector Loop

Scale at A3	Date	Revision	Drawing Number
1:100	3/9/15	A	**SK-032**