

5 General Specifications

There are a number of documents available providing a disparity of information on path infrastructure.

The following publications are referenced in this Technical Report:

- Department of Transport (DoT) Shared Path Design Technical Guidelines (Draft for Comment – Nov 2016)
- Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths, and Part 4 (Intersections and Crossings)
- Relevant Australian, MRWA and IPWEA Standards

The sub-sections in this general specification are tailored for the Mount Barker townsite. However it would be necessary for Shire staff to have the full publications listed available at detailed design stage to ensure full conformance to standards and fulfilment of any DoT grant requirements.

Generally the paths within the townsite would be categorised as low speed. The following geometry and surface treatments guideline is provided by DoT:


Function	Example
<p>Low speed shared path</p> <p>Low speed, low volume paths with a mix of pedestrian and cycling traffic. Suitable for utility cyclists, students and low-speed commuters.</p> 	<p>Design Speed</p> <ul style="list-style-type: none"> • <20km/hr <p>Geometry</p> <ul style="list-style-type: none"> • 2.5m-3.0m width • Recommended curve radius 10m • Min. curve radius 5m • Min. connection radius 1m • Crossfall 2-2.5% • Max gradient 3% <p>Surface Treatment</p> <ul style="list-style-type: none"> • Concrete or Asphalt • Consider centreline marking to provide guidance & passive wayfinding.

Figure 2: Low Speed Shared Path general specification guide (DoT)

Austrroads (*Appendix A*) and the IPWEA Guidelines however provide the following concession regarding path width, and applicable to Mount Barker conditions:

- 2.0 m is the absolute minimum path width where paths experience very low use at all times and on all days or where significant constraints exist limiting the construction of a wider path, and may be acceptable for a commuting path where the path user flows are tidal in nature.

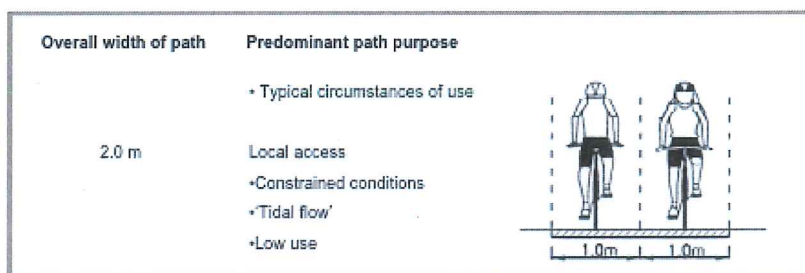


Figure 3: Austroads absolute minimum width for low use

5.1 Verge Grade

As stated in Section 1.4 retrofitting existing roads with kerbing and paths can provide challenges in steeper terrain. In a 'green field' scenario the verges are set up with a 2% grade from the back of kerb to the lot boundary. Where there is a steep crossfall, earthworks and retaining would be used to achieve the desirable verge grade.

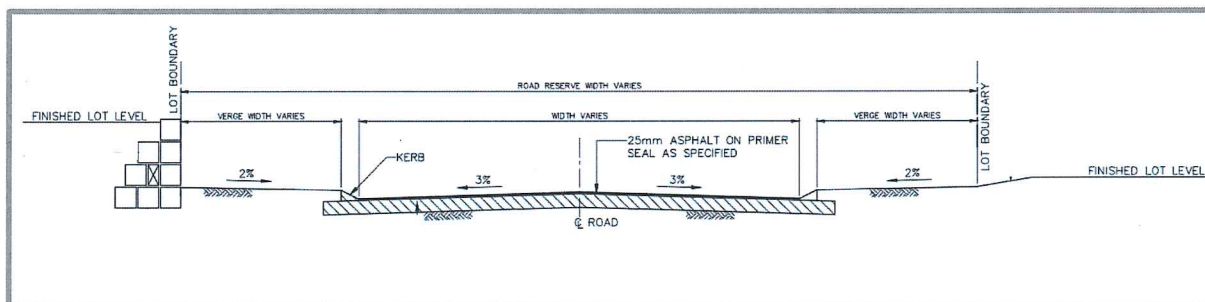


Figure 4: Standard 'green field' urban road profile with 2% verge grades from back of kerb to lot boundary

In Mount Barker achieving an envelope wide enough to accommodate a path at a reasonable crossfall is further compounded by:

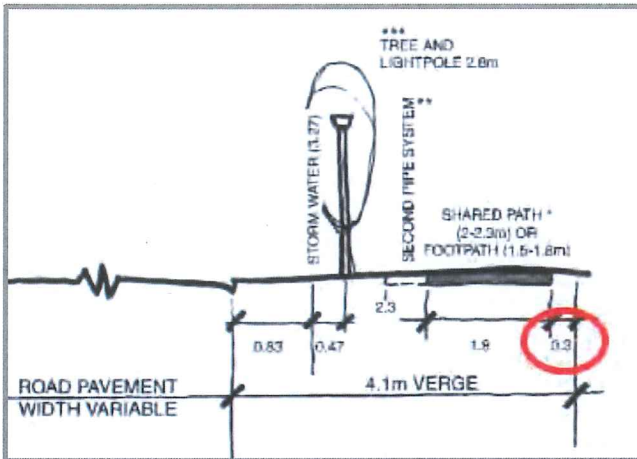
- Service lid levels
- Power poles
- Street trees
- Crossovers to lots
- Building awnings and signage (CBD area)

In some instances the combination of these encumbrances may compromise path outcomes. In these instances signage can be used to warn path users.

The Shire should be insistent on ensuring adequate verge grades are achieved on all future subdivisions in order that paths can be either developed as part of initial service construction or added at a later date.

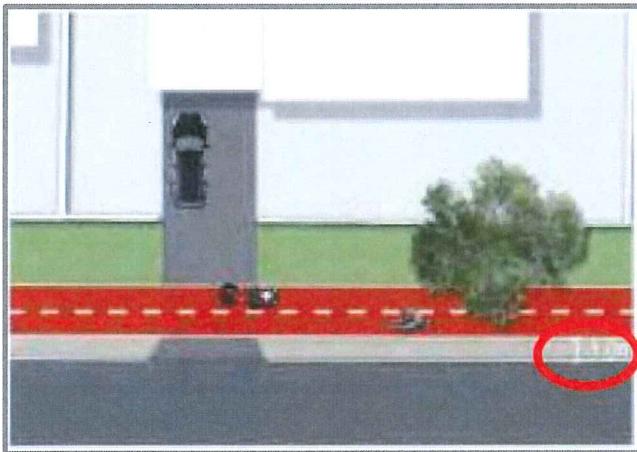
5.2 Path Material and Alignment Within Verge

The paths within the townsite are predominantly asphalt and this surface is acceptable, although more susceptible to deterioration over time as opposed to concrete. Edge restraint is recommended, however this does significantly increase the linear cost per metre.



Regarding alignment of paths IPWEA (and Liveable Neighbourhoods) designate the path corridor to be typically 0.3m off the lot boundary. This provides an adequate envelope for street trees and light poles.

Figure 5: Path located 0.3m off lot boundary.



DoT state that a minimum of 1m separation from the kerb is required.

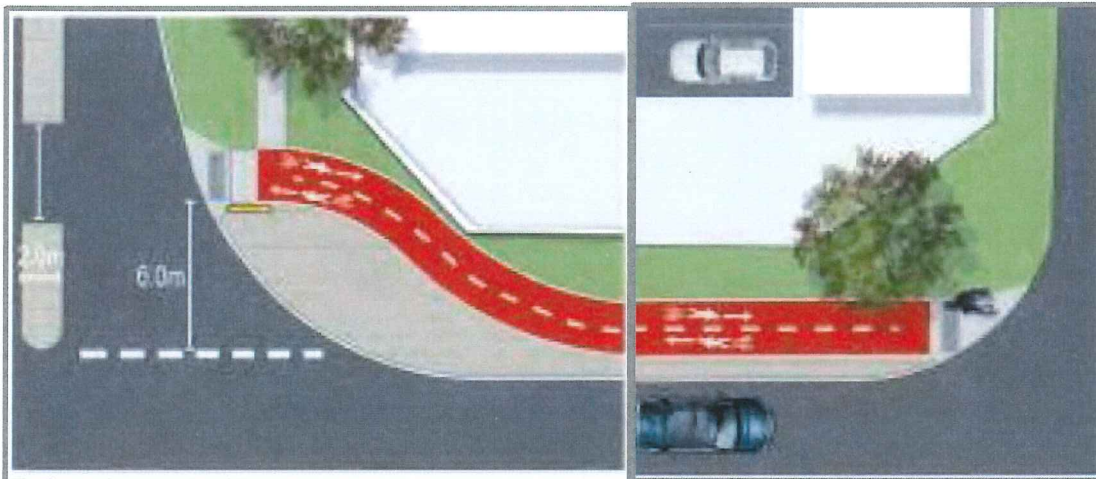
Figure 6: Path located 1m off kerb

The over-riding criteria is that paths should not be located hard up against kerbs, but set back a minimum of 1m in order to provide separation to vehicles.

Path designers will also need to consider vertical and horizontal curves as well as a minimum 2.5m height requirement.

5.3 Intersection Alignments

DoT's preferred and alternate intersection alignments are detailed in figures 7 and 8, below. It is desirable to set the intersection back a minimum of 6m from the kerbline. Where insufficient truncations space or encumbrances prohibit, the 1m offset path (from back of kerb) projects across the intersection.



Figures 7 and 8: DoT's preferred and alternate intersection alignments

The majority of local governments to which Calibre submits designs for approval require that Pram Ramps are located at the end of intersection kerb radius tangent points. This is detailed in Figure 9, below from a previous project:

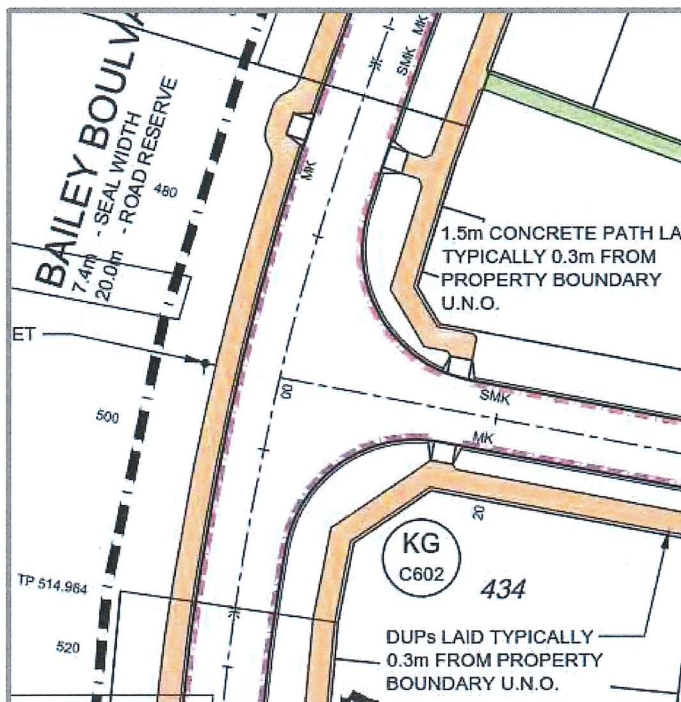


Figure 9: Example of Pram Ramps located and the end of kerb radii tangent points

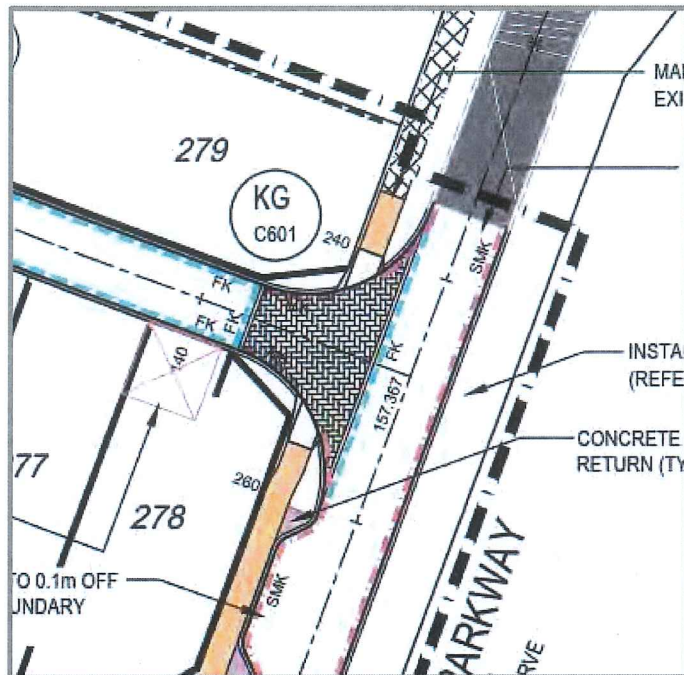


Figure 10: Alternate Pram Ramp position where insufficient truncation area is available (in this instance due to a narrow 6m wide laneway)

The preferred outcome is always for cyclists and pedestrians to cross at approximately 90degrees to the traffic flow. This should be implemented where possible. Diagonal crossing of intersections is not a safe practice.

5.4 Pram Ramps

It is important that pram ramps are constructed to provide a level of comfort to all path users. Calibre's standard design as submitted to local governments has a maximum grade of 1:8. This meets AS 1428.1 (Design for Access and Disability) requirements. Sides are also sloped to address the difference between kerb height and gutter level. Attention should also be paid to gutter levels across the pram ramp, as all too often puddles form at these locations during rain events.

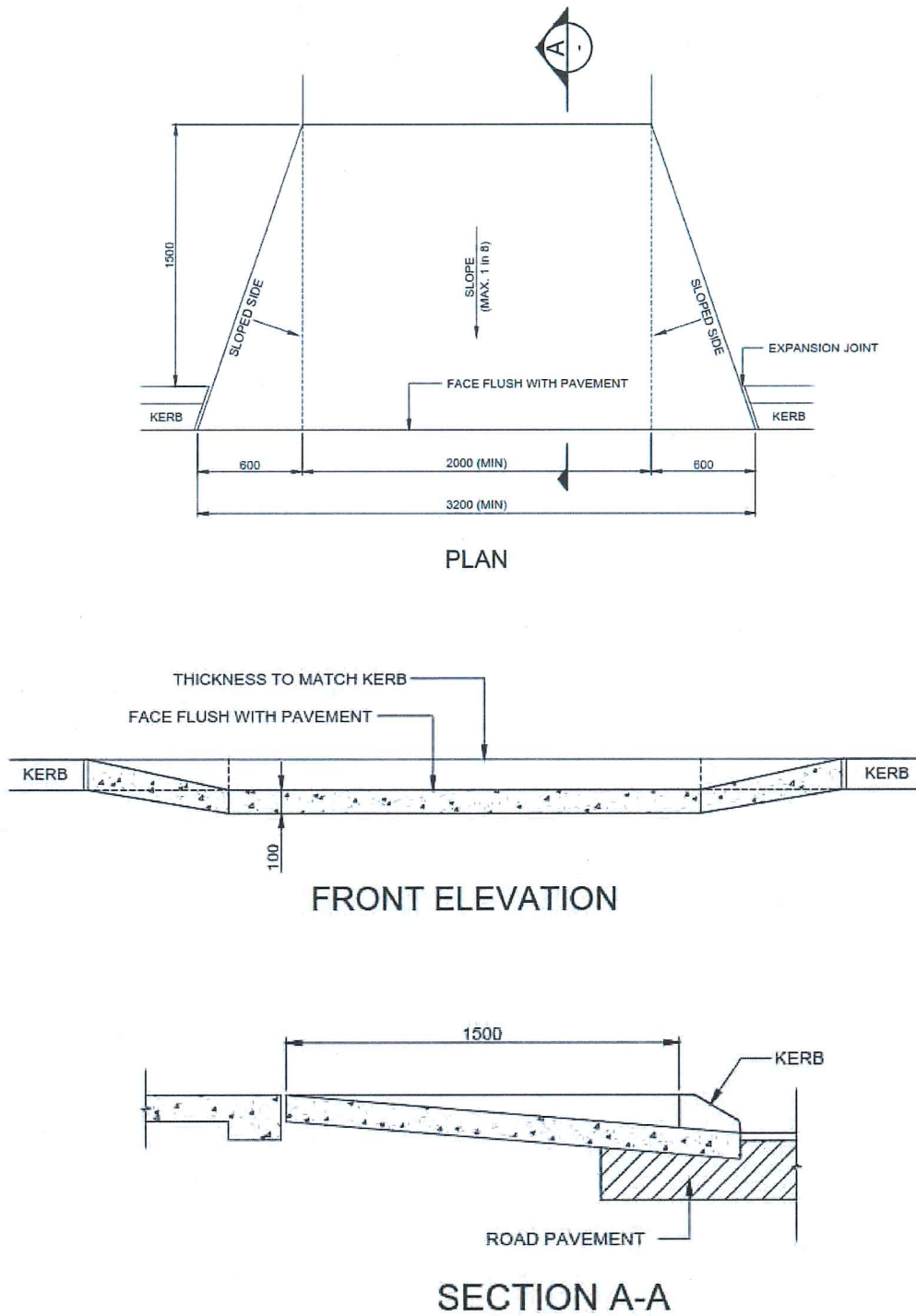


Figure 11: Current Pram Ramp standard details

5.5 Albany Highway Crossings

Section 1.3 details a wide variance in crossing facilities on the Albany Highway. These should be brought up to a consistent standard and strictly maintained as they are pivotal to safely conveying cyclists and pedestrians to the western and eastern sides of the townsite.

There are numerous standards regarding crossings and a compilation of these should be submitted to MRWA for approval and implementation.

The following are the highest standard crossings currently provided within Mount Barker:

- 460m south of Woogenelup Road (photo 6 – Section 1.3). Bollards, concrete pram ramps with Tactile Ground Surface Indicators (TGS), edge delineation.
- Crossing on Woogenelup Road (Photo 28 – Section 1.5) with edge lining, bollards and grab rails

A similar example can be seen in Spencer Street, Bunbury:



Photo 29: Spencer Street crossing, Bunbury*

**This crossing has adult supervision in the morning and afternoon to assist with school peak crossing. AS1742.10 – 1990 (Appendix C) sets out model instructions for adult supervisors at crossings (two-way and divided roads). Adult supervision on school days are also used for the crossing on Albany Highway 460m south of Woogenelup Road, as this is the convergence/divergence point for both the western and eastern sections of the townsite travelling to and from the education precinct.*

Austrroads Part 4 (Sections 8 and 9) details several configurations to provide guidance on crossing facilities. Although these are generally urban arrangements they are pertinent, the amended mid-block crossing as detailed below in Figure 12 is considered reasonable. This figure details a median. This is desirable and should be discussed with MRWA as a future upgrade to all of the Albany Highway crossings. In the meantime drawings detailing the advanced warning, bollards, grab rails and edgelines should be submitted to MRWA for approval.

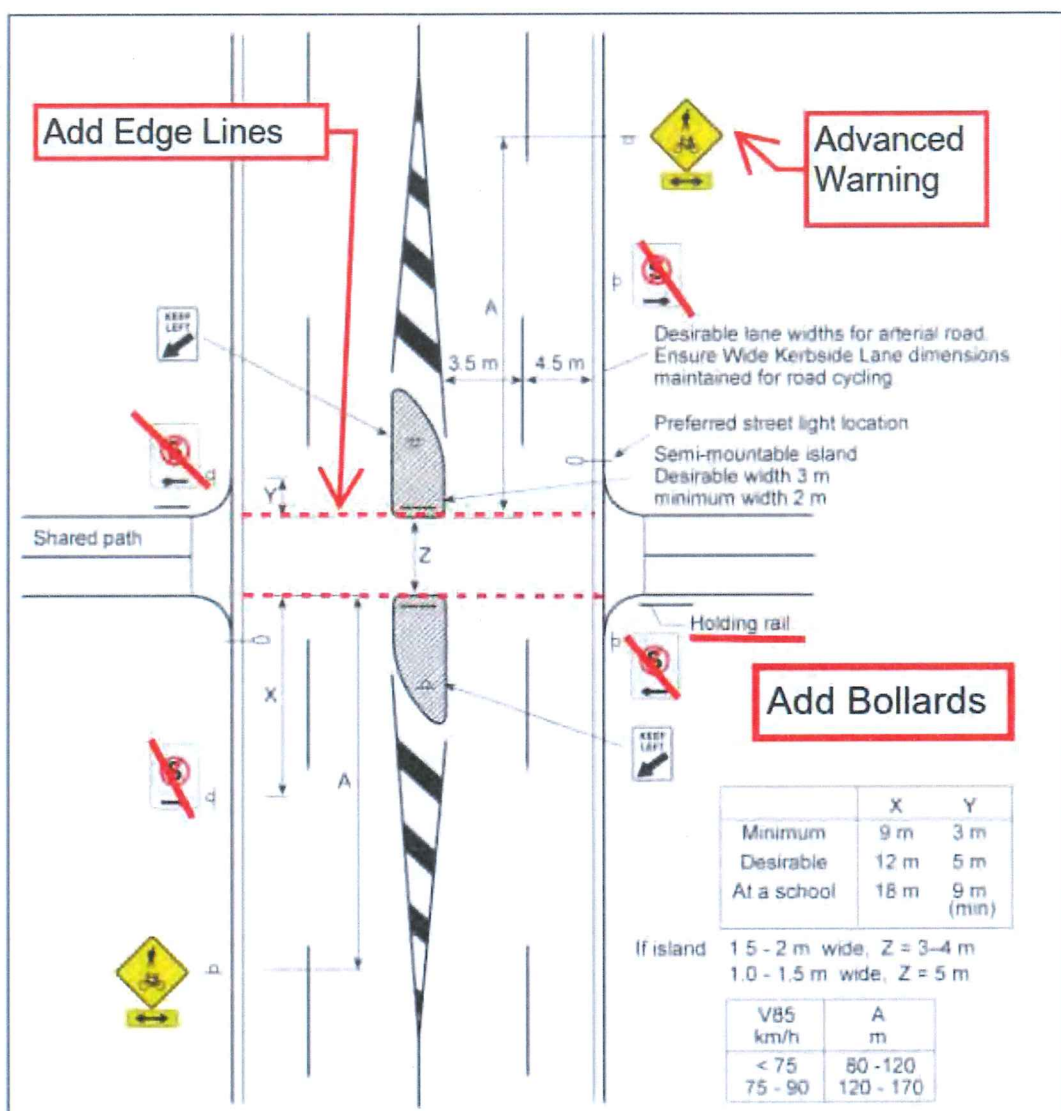


Figure 12: Compilation Crossing Detail (amended from Austroads Part 4 – Figure 9.2)

5.6 Railway Crossings

AS 1742.10 sets out requirements for pedestrian treatments at railway crossings. Appendix F of this publication (below) states that for low volume pedestrian facilities a maze may not be required.

The crossing on Muir Street (photo 13 – Section 1.3) does not have a maze. It is however regulated with signage and warning lights, and therefore considered adequate.

At Lowood Road (photo 16 – Section 1.3) the rail crossing is not developed with a pedestrian path. There is however the same level of signage and warning lighting. It is noted that the existing path infrastructure (gravel) terminates some 135m west of the railway line. There is no formalised path network east of the railway line in this location, although the western gravel verge on Albany Highway is level and rideable. It would not appear that this is currently a crossing location of any significance.

All other crossings have mazes in place and meet requirements.

APPENDIX F
PEDESTRIAN TREATMENTS AT RAILWAY LEVEL CROSSING
(Informative)

F1 SCOPE This Appendix sets out the form of pedestrian control to be used at places where numbers of pedestrians cross a railway line at grade.

F2 FACILITIES At railway level crossings, consideration should be given to one or more of the following pedestrian facilities:

- (a) *For relatively light pedestrian usage*, a footway across the railway, either as a widening of the carriageway or as a separate footway, should be provided. Signs to instruct and direct pedestrians as appropriate and markings to define the footway may be needed.
- (b) *Where the pedestrian movement is heavy*, one or more of the following may be required:
 - (i) Guard fence along the edge of the approach footways.
 - (ii) Pedestrian mazes to direct pedestrians to cross in an orderly movement at one particular location and to orientate them so as to view on-coming trains before making the crossing.
 - (iii) Some form of pedestrian gate which could be remotely controlled and lockable at manually controlled crossings and could be automatic (perhaps in the form of a boomgate) when road vehicles are controlled by automatic flashing lights.
 - (iv) Illumination of the crossing.
- (c) *Where a level crossing is controlled by flashing lights*, audible devices may be provided as a warning for pedestrians.

Individual road and rail authorities may have more detailed guidelines for specific aspects.

5.7 Impairment Design (Mobility and Visual)

AS 1428.4 Design for Access and Mobility provides requirements to design disability ramps and landings. Where possible these should be included in order to provide as higher level of disability access as possible. It is acknowledged that due to the townsite topography that disability access will not always meet the required standards.

Tactile Ground Surface Indicators (TGSIs) are to be installed at Pram Ramps in accordance with AS 1428.4.1. It is important to set up the indicators so that a minimum of 6 cones align and provide directional indication to the opposite pram ramp. The warning TGSIs are also to be perpendicular to the hazard on approach.

It is noted that one of the Albany Highway crossings is fitted with TGSIs sets, as well as the new pram ramps in the CBD. All new works should have TGSIs included. The Shire should retrofit the path network on a needs basis as a minimum standard.

5.8 Signage and Line Marking

Apart from road crossings (detailed in the previous section), signage and linemarking (if used with discretion) can assist with delineation of potential conflict areas. The example below details a cost effective solution to directing pedestrians and cyclists behind a parking area.



Photos 30 and 31: Linemarking delineation to define path location

This type of treatment would be very effective on Albany Highway at the United Service Station (some 80m north of the railway crossing). Having negotiated the maze path users are required to traverse two wide service station crossovers. These are currently not delineated. Edge lines and chevron non-slip painting would delineate the path through both crossovers. Advisory signage warning path users that they need to give way to vehicles will also need to be erected.

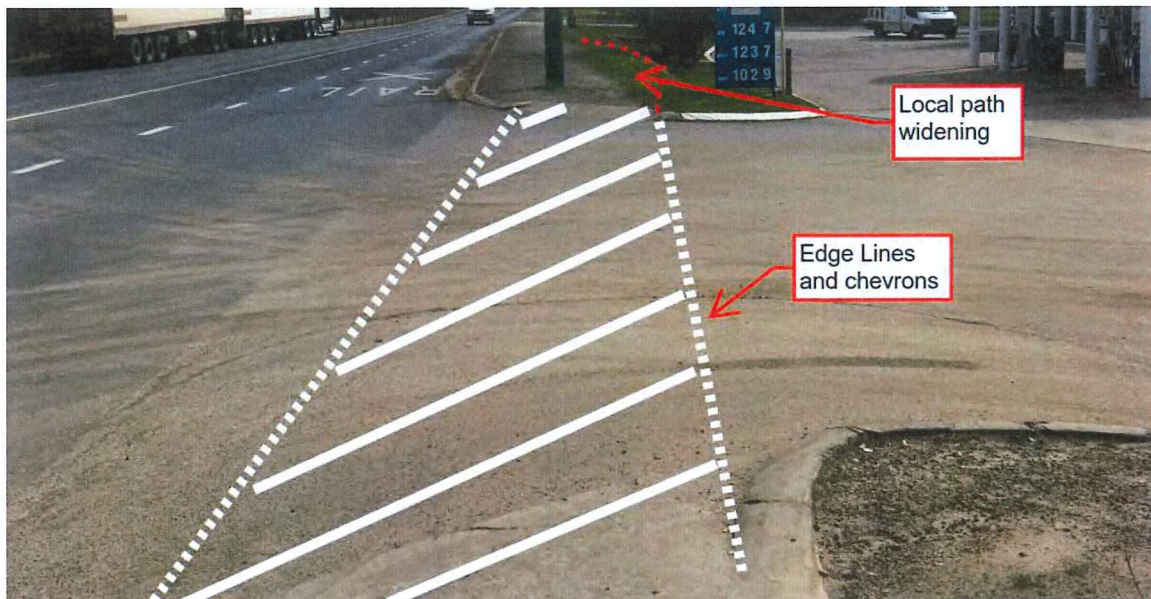


Photo 32: Southern service station crossover treatment

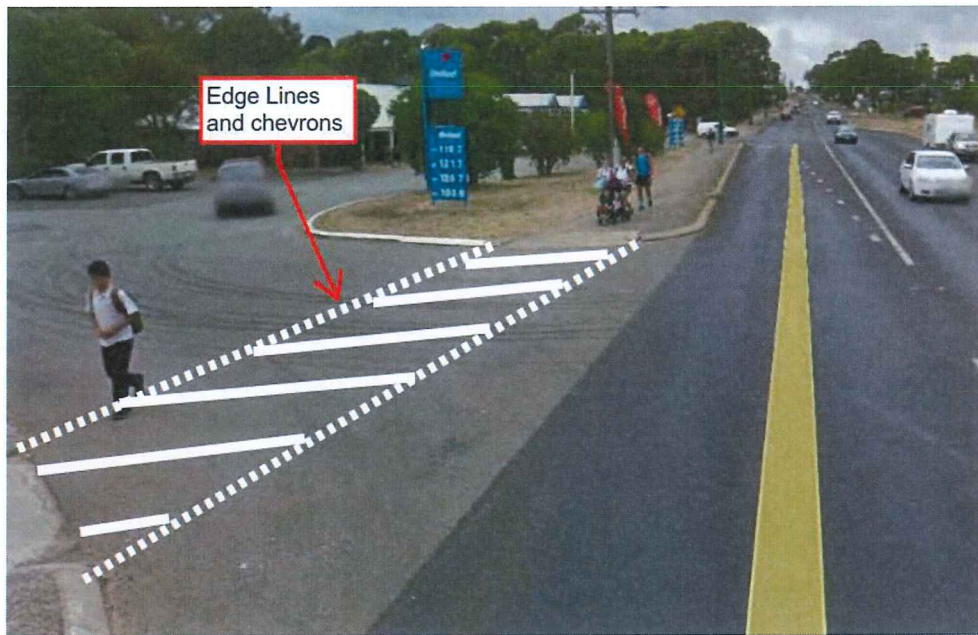


Photo 33: Northern service station crossover treatment

Wayfinding information can also define recreational exercise loops. These can be detailed on information maps and brochures, etc. The Walk-it Bunbury Path programme has been very effective, with 15 delineated walk/rides identified.

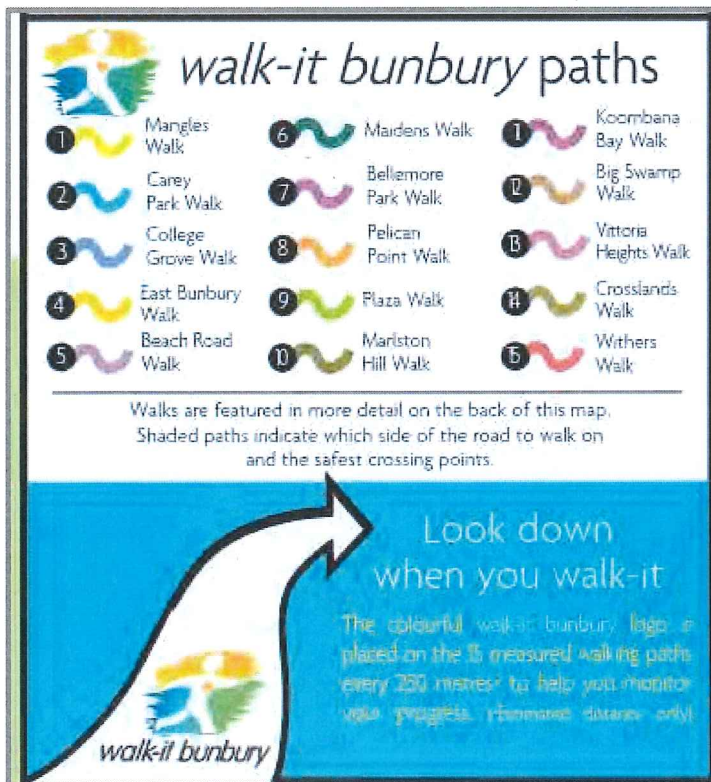


Figure 13: Walk-it Bunbury map legend

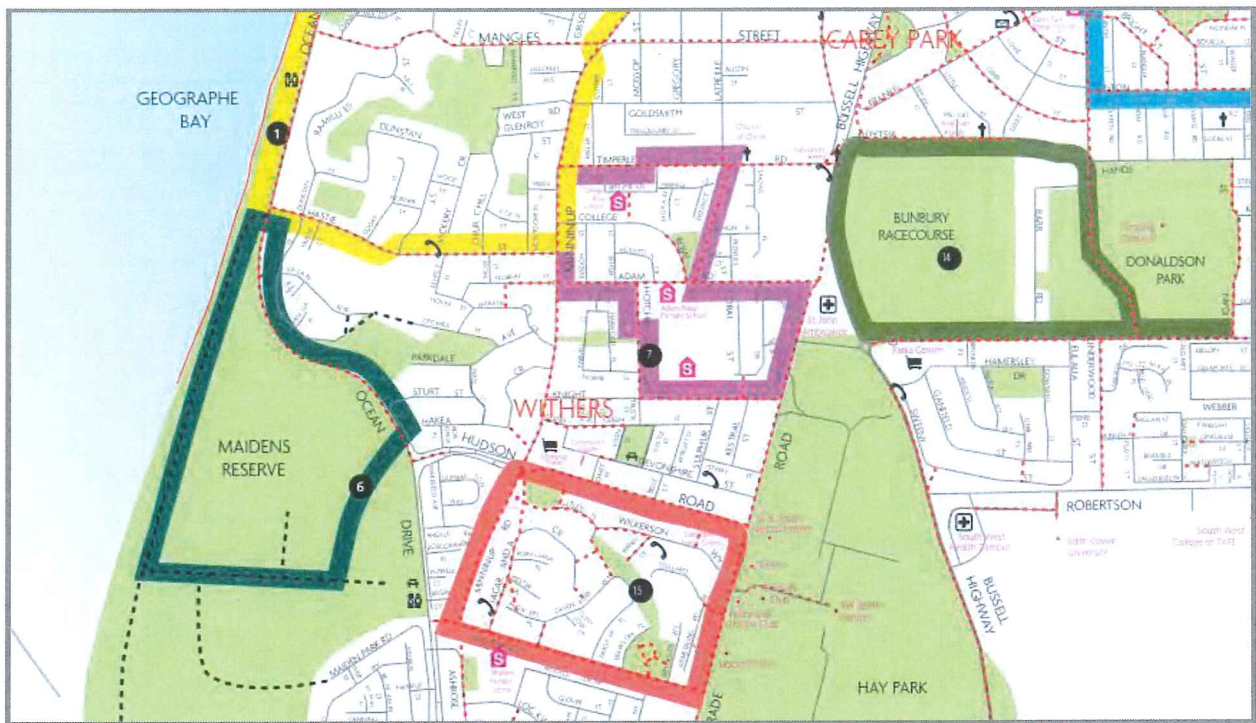


Figure 14: Walk-it Bunbury part map

Advisory signage and pavement stencils could also be considered within the townsite path network.

Austrroads Part 14 (Section 9) and AS1742.9 provide direction regarding pavement marking symbols. MRWA are required to approve all regulatory road signage.

6 Five-year Network Improvement Recommendations

Drawings CK01 and CK 02 detail existing paths and proposed upgrade and improvement works identified within the townsite. These are prioritised and preliminary estimates provided to assist with budget consideration.

6.1 Priorities

Priorities are identified as follows:

Priority 1 – Immediate (projects to be implemented in year 1)

Priority 2 – Short term (to be implemented in year 2)

Priority 3 – Medium term (to be implemented in year 3)

Priority 4 – Longer term (to be implemented in year 4)

Priority 5 – Horizon projects (to be investigated in years 1 to 4 for implementation in year 5)

6.2 Preliminary Estimates

Appendix A contains preliminary estimates for the recommended path works on the Five Year Programme

6.3 Recommended Path Works

Consolidated recommendations are set out in the table below. Further detail on individual projects is provided in subsequent sub-sections.

#	Location	Works Recommended	Priority	Preliminary Estimate
1	Albany Highway Crossings	Upgrade as per Section 4.5	1	\$48,000
2	Albany Highway Path - Booth Street to immediately north of United Service Station (northern crossover)	Asphalt overlay, minor widenings and new Pram Ramps	1	\$116,160
3	General Pram Ramp Replacements	Ongoing replacement of Pram Ramps, install TGSIs and signage	1-5 (5 per yr)	\$43,500 (\$8,700 /yr)
4	Swimming Pool Link - Hassell Street (Ingolby Street to Narpund Road); Narpund Road from Hassell Street; and Mead Street past swimming pool to Albany Highway).	New path section (Hassell Road), overlay and Pram Ramps.	1	\$41,940
5	Memorial Road – Albany Highway to Lowood Road	New asphalt section on existing gravel path	2	\$15,156
6	Recreation Ground - Menston Street cul de sac to AC path termination	New asphalt section on existing gravel path in Recreation Grounds from	2	\$13,884

7	Menston Street – Mondurup Street to Langton Road	Asphalt overlay and new Pram Ramps	2	\$71,580
8	Mount Barker Road – Marion Street to Mondurup Road	Asphalt overlay and new Pram Ramps	2	\$63,768
9	Ormond Road – Deane Street to Webster	New Path and Pram Ramps	2	\$51,264
10	Marion Street – Menston Street to Mount Barker Road	New path and Pram Ramps	3	\$47,172
11	Lowood Road – Marion Street to Mondurup Street	New path and Pram Ramps	3	\$47,940
12	Mondurup Street (Albany Highway to Lowood Road)	New asphalt section on existing gravel path; new path with 2 x open drain crossings; railway maze	3	\$58,260
13	Albany Highway – Mondurup Street to crossing south of Booth Street	New path	3	\$43,620
14	Booth Street – Albany Highway to 150m west of Martin Street	Asphalt overlay and short new path section	4	\$60,996
15	Athelton Street – Hassell to Haese Street	New path	4	\$17,388
16	Hassell Street – Haese Street to Oatlands Road	Asphalt overlay and new Pram Ramps	4	\$17,232
17	Haese Street	Asphalt overlay and short new path section	4	\$38,568
18	Oatlands Road – Fellows to Hassell Street	Asphalt overlay and new Pram Ramps	4	\$70,920
19	Recreation Ground Loop – Menton Street cul de sac around cricket oval and down McDonald Ave to existing path	New path	5	\$69,036
20	New Albany Highway crossing – prolongation of Mondurup Street to Hassell Street	Investigate crossing and path link through old school grounds to Hassell Street	5	\$33,696

The total 5year programme cost is \$970,080 (excluding GST)

6.3.1 Project 1: Albany Highway Crossings

Upgrades to crossings as detailed in Section 4.5

6.3.2 Project 2: Albany Highway Path (Booth Street northwards)

Asphalt overlay to existing path on eastern verge to collect and distribute traffic to Albany Highway crossings; recreation grounds, swimming pool and education precinct. Pram Ramps to be replaced/realigned as required.

Alignment to be set back from kerb and meander around power poles. Consideration should be given to edge lining to demarcate separation from Albany Highway



Photo 34: Old path on Albany Highway eastern verge



Photo 35: Edge Lining defining separation from behind kerb— Mounts Bay Road, Perth

6.3.3 Project 3: General Pram Ramp Replacement

Numerous locations. Old ramps to be removed and replaced. Sharp edges at kerb cut outs to be chamfered. Install TGSIs and signage (advisory and information). This will be an ongoing sub-project over the 5year Bike Plan.

6.3.4 Project 4: Swimming Pool Link

This project includes:

- construction of the northern block of Hassell Street
- asphalt overlaying existing pathways Narpund Road
- Construct short section of path on Narpund Road (south of sharp bend) and west of Osborne Road
- Pram Ramp links
- Chevron section across car park on Mead Street
- Asphalt overlay on Mead Street to Albany Highway.



Photo 36: Narpund Road path upgrades at Osbourne Road intersection

This will provide a strong link to the swimming pool and Albany Highway path for a significant catchment on Narpund Road, Ingolby Street, Donnelly Peak View and Mt Magog Garden.

6.3.5 Project 5: Memorial Road – Albany Highway to Lowood Road

Asphalting on gravel pathway adjacent to Centenary Park, replacement of flagstones and connection to pavers



Photo 37: Gravel path Memorial Road adjacent to Centenary Park

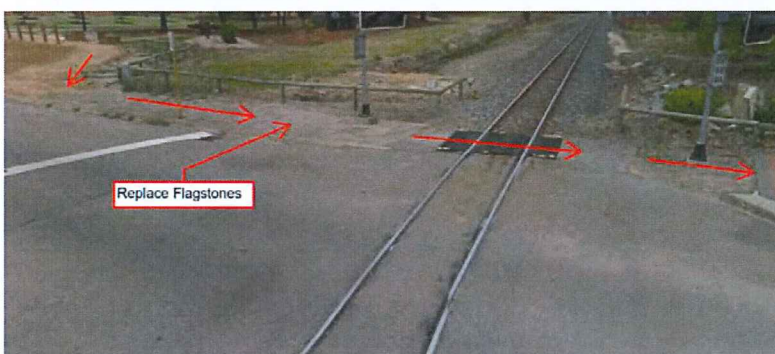


Photo 38: Memorial Road path – removal of flagstones and connection to pavers

6.3.6 Project 6: Recreation Ground Path

This section of path will provide an all-weather and off-road link from the Menstron Street cul de sac to Lowood Road, providing a safe Off-road route to the education precinct.



Photos 39 and 40: Proposed Recreation Ground Path

6.3.7 Project 7: Menston Street – Mondurup Street to Langton Road



Photo 41: Menston Street asphalt overlay and pram ramps

Section from Langton Road to Muir Street in acceptable condition. Cul de Sac to Recreation Grounds very low traffic volumes, so on-road cycling considered acceptable.

6.3.8 Project 8: Mount Barker Road – Marion Street to Mondurup Street



Photo 42: Mount Barker Road asphalt overlay

Existing surface deteriorates south of the Police Station

6.3.9 Project 9: Ormond Road – Deane to Webster Street



Photo 43: Ormond Road – new path

This road has new kerbing. No path in place. Provides a catchment link to Deane Street and further west on Ormond Road to Albany Highway.

6.3.10 Project 10: Marion Street – Menston Street to Mount Barker Road



Photo 44: Marion Street – new path

Marion Street has a section of path from Lowood to Mount Barker Road. This new section will provide path access to the catchment between Montem Street and Langton Road.

6.3.11 Project 11: Lowood Road – Marion Street to Mondurup Street



Photos 45 and 46: Views on Lowood Road south from Marion Street and north from Mondurup Street

The path on Lowood terminated at the car park entrance at Marion Street. Extension of the path will provide access to the public toilets and a link out towards the Albany Highway.

6.3.12 Project 12: Mondurup Street - Albany Highway to Lowood Road



Photo 47: Gravel path on Mondurup Street south of Lowood Road

This section of path will complete the loop out to Albany Highway. There is an existing section of gravel path to be sealed. Two open drains and a railway line crossing are required.

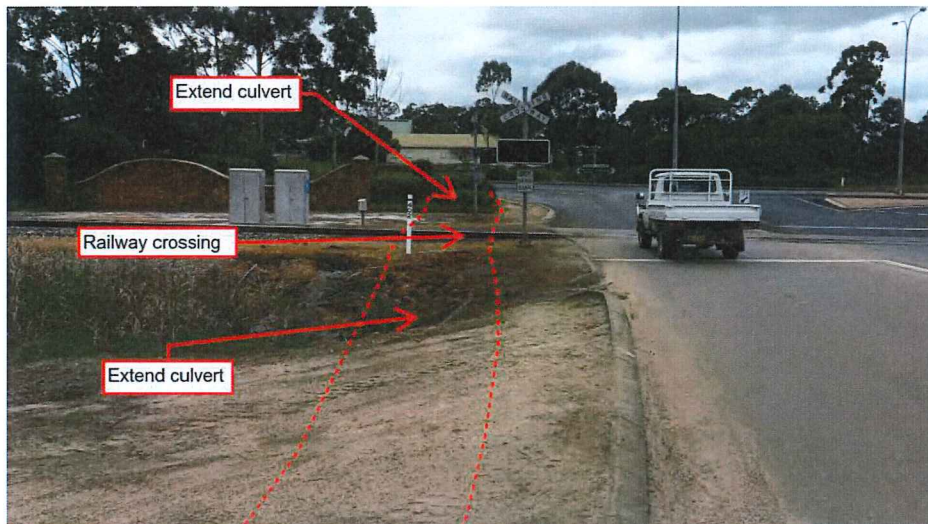


Photo 48: Culvert extensions and rail crossing on Mondurup Street at Albany Highway intersection

6.3.13 Project 13: Albany Highway – Mondurup Street to crossing south of Booth Street

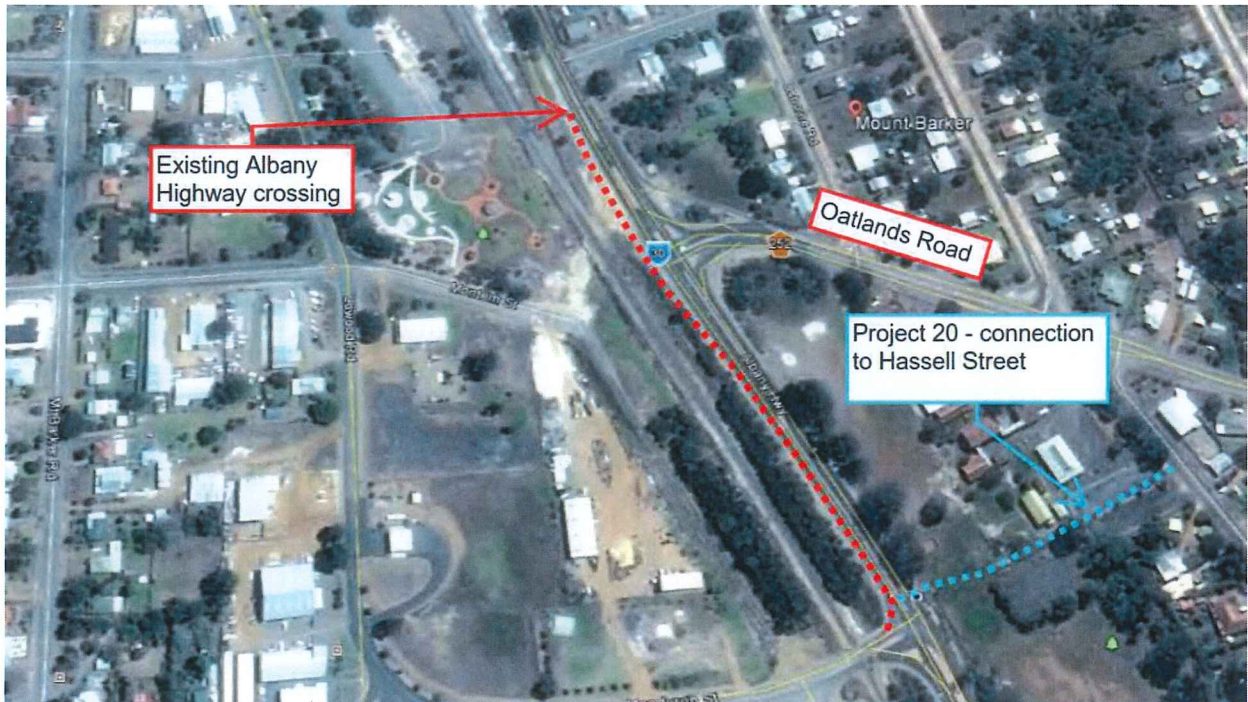


Photo 49: Path from Mondurup Street to Albany Highway crossing between Oatlands Road and Booth Street

The path on Albany Highway currently terminates at Oatlands Road. There is an existing crossing point immediately north of Oatlands Road. The proposed path would connect to this crossing and provide a loop back to Mondurup Street and the southern section of the townsite commercial area. MRWA would need to be consulted which could be incorporated into any future subdivision of the land.

Photo 49 also details the future link to Hassell Street. An alignment is to be investigated through the old school site.



Photo 50: Verge on Albany Highway has adequate width for path

6.3.14 Project 14: Booth Street – Albany Highway to 150m west of Martin Street



Photo 51: Booth Street (east of Deane Street)

Booth Street has a significant catchment between Ormond and Oatlands Road. The current path extends to 150m west of Martin Street. The last block from Osborne Street to the Albany Highway is low volume, as there is no access from Booth Street onto the Highway. Therefore this section could be an on-road path.

6.3.15 Project 15: Athelton Street – Hassell to Haese Streets



Photo 52: Athelton Street

There is currently no path between Haese and Hassell Streets. Extension further to the east (towards Martin Street) would not be warranted during the life of the Bike Plan.

6.3.16 Project 16: Hassell Street - Haese Street to Oatlands Road



Photo 53: Hassell Street – no Pram Ramp at Haese Street

Works include an asphalt overlay and Pram Ramps

6.3.17 Project 17: Haese Street

The north/south leg of Haese Street has a section of path requiring an asphalt overlay. The east/west section to Haese Street currently has no path.

6.3.18 Project 18: Oatlands Road – Fellows to Hassell Street



Photo 54: Oatlands Road – west of Fellows Street

Oatlands Road has been developed with paths on both sides from Albany Highway to Fellows Street. This would be due to the regional significance of the road providing access to the Porongurup National Park.

The paths require asphalt overlay and new Pram Ramps. It was noted during the site inspection that some recent works have been undertaken on Oatlands Road.

6.3.19 Project 19: Recreation Ground Loop

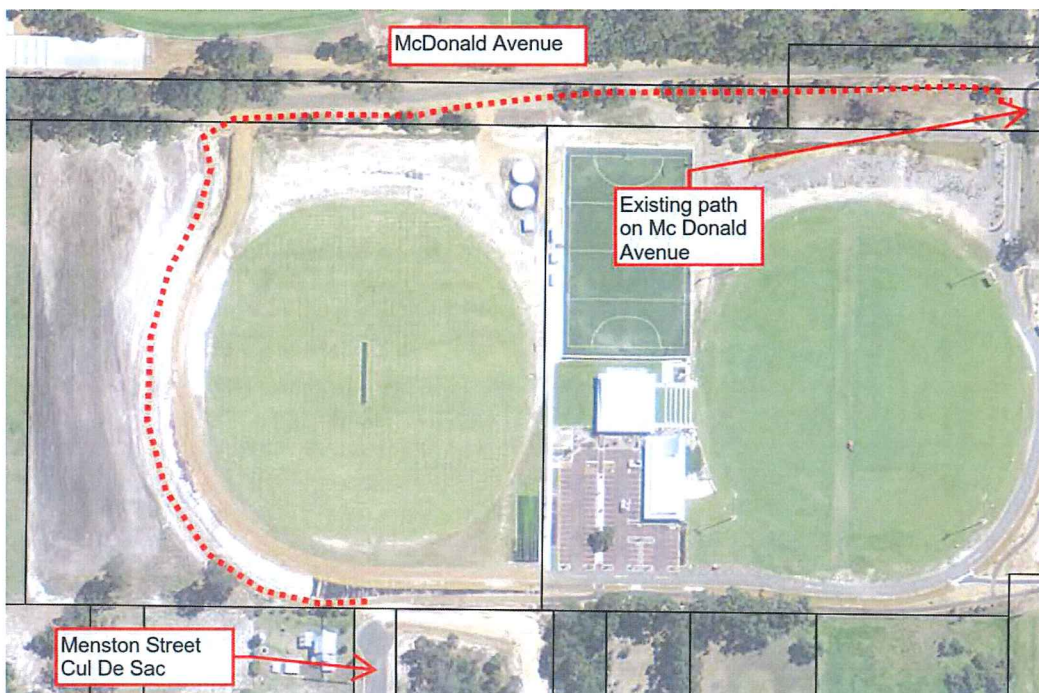


Photo 55: Recreation Ground Loop



Photo 56: Recreation Ground Loop access from McDonald Avenue

This path is aimed at a more recreational function. It provides an aesthetic route and could form part of an identified fitness loop. The path within the recreation ground is formed up.

6.3.20 Project 20: New Albany Highway Crossing – Mondurup Street

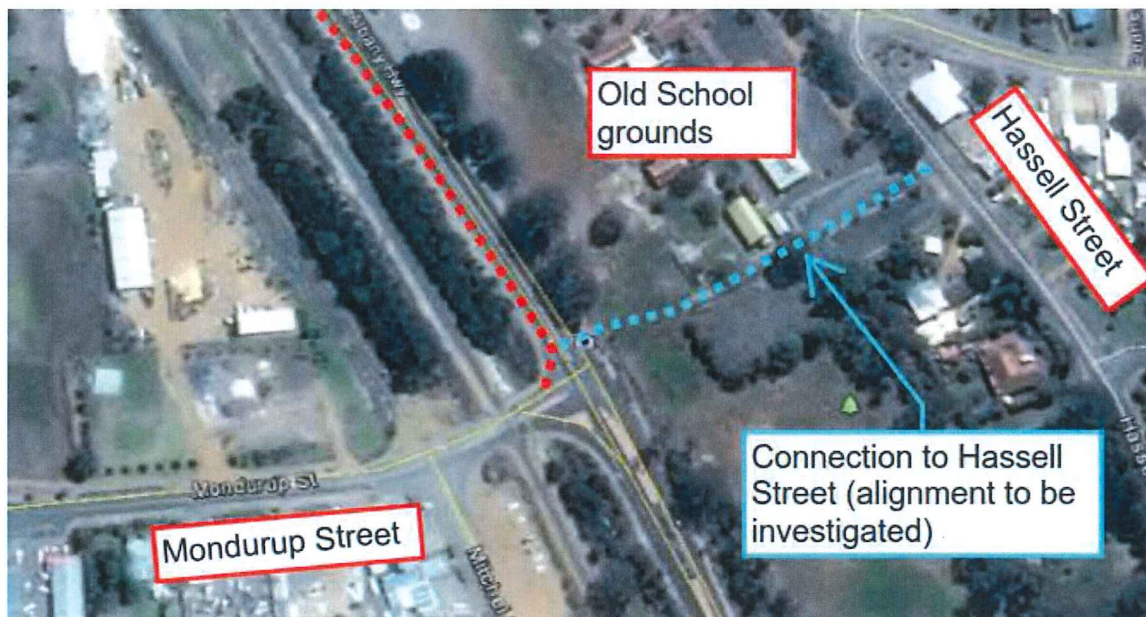


Photo 57: New crossing over Albany Highway and link to Hassell Street.

This connection would provide a more convenient route for residents south of Oatlands Road to access the CBD. The Highway is in approximately 1m of fill in this location. There is also a culvert in the vicinity draining the school area to the west under Albany Highway. The new link will need to be constructed with a culvert to allow runoff to access the existing culvert. An alignment for the path as well as tenure (easement etc) will require investigation.

7 Bike Plan Review

It is recommended that the Bike Plan be reviewed during year 4 in order that works required can be agreed and scheduled. This will ensure that momentum is maintained for the improvement of cycle infrastructure.

8 Infrastructure Maintenance

Shire staff are encouraged to regularly patrol and maintain the path network, paying particular attention to:

- Potential slip/fall hazards – gravel and sand deposited on paths after rain events; fallen tree branches etc
- Path surface condition (pot holes, cracking etc)
- Signage and delineation

A rigorous method of inspecting the infrastructure is to actually ride it.

9 Education and Encouragement

Education and encouragement is an extremely important part of the Bike Plan. This can include:

- Ride to Work/School days
- Bike and safety education at schools
- Social bike events at locations in the townsite
- Demarcation and brochures detailing path loops within the townsite
- Forming fitness groups of various ages

Appendix A Preliminary Estimates

16-002225 - Mount Barker Bike Plan
Preliminary Estimates

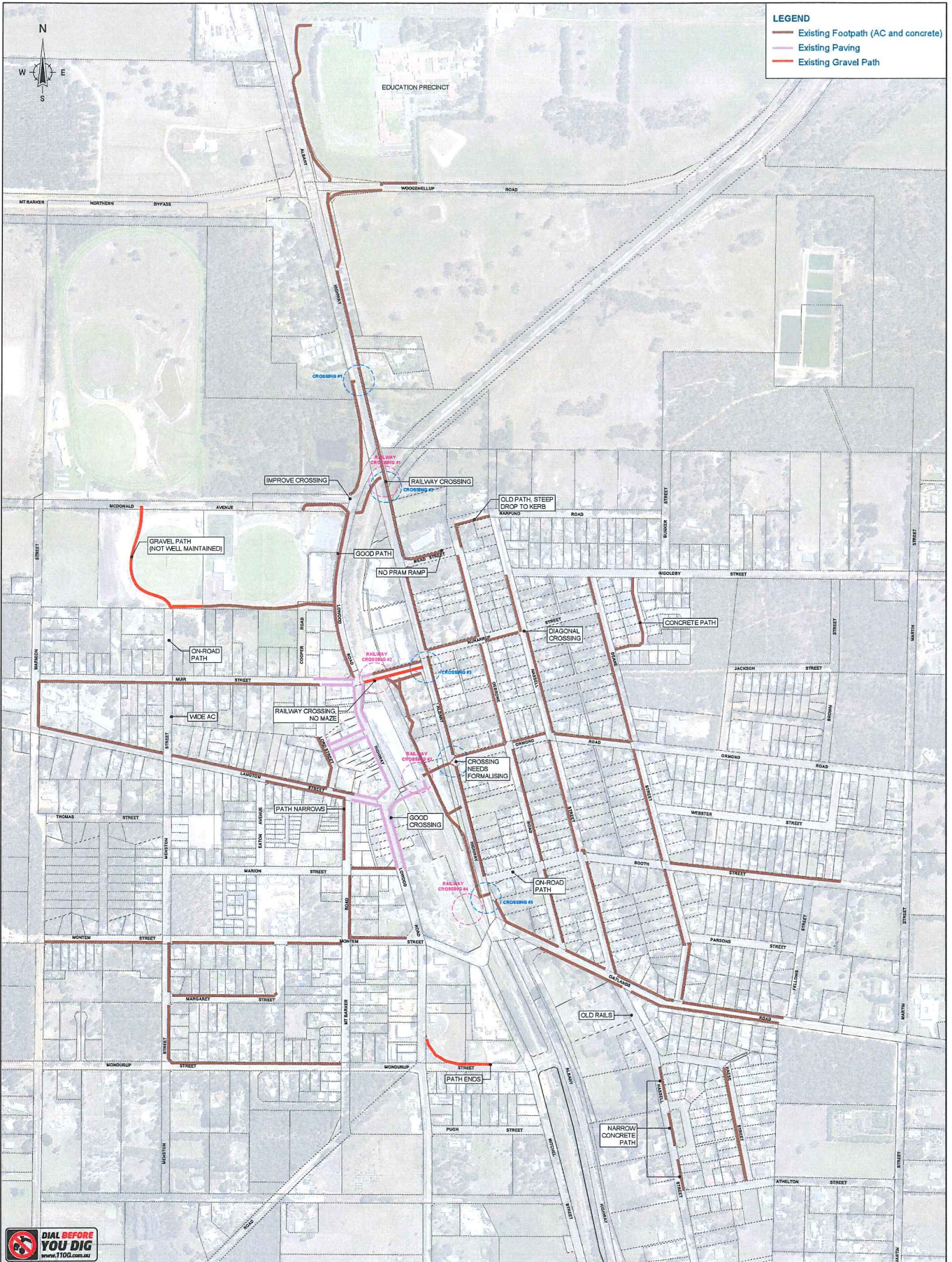


Project	Description	Asphalt Overlay Base Preparation (\$/m)	Length- 2.5m wide (m)	Asphalt Overlay (\$/m)	Length- 2m wide (m)	New Path Base Preparation (\$/m)	Length- 2.5m wide (m)	New Path Asphalt (with tack coat) (\$/m)	Length (m)	Reinstate Verge (\$/m)	Length (m)	Pram Ramps (\$/unit)	Number	Signage, Posts, Line Marking (\$/sum)	Other Costs (dig, kerling) (\$/sum)	Subtotal (\$)	5% Preims (\$)	15% Contingency (\$)	Total (\$)	Priority 1 Total (\$)	Priority 2 Total (\$)	Priority 3 Total (\$)	Priority 4 Total (\$)	Priority 5 Total (\$)
1	Albany Highway Crossings	9.00	48.00	0	16.00	0	60.00	0	5.00	0	40,000.00	1,450.00	6	40,000.00		40,000.00	2,000.00	6,000.00	48,000.00	48,000.00				
2	Albany Highway Path - Booth Street to United Service Station (northern crossover)	9.00	1300	48.00	1300	16.00	60.00	0	5.00	0	96,800.00	1,450.00	6	7,500.00		96,800.00	4,840.00	14,520.00	116,160.00	116,160.00				
3	General Pram Ramp Replacements	9.00	48.00	0	16.00	0	60.00	0	5.00	0	36,250.00	1,450.00	25			36,250.00	1,812.50	5,437.50	43,500.00	8,700.00	8,700.00			8,700.00
4	Swimming Pool Link - Hassell Street (ingby Street to Newport Street) - Hassell Street and Mead Street (east swimming pool to Albany Highway)	9.00	250	48.00	250	16.00	60.00	150	5.00	150	34,950.00	1,450.00	4	1,500.00		34,950.00	1,747.50	5,242.50	41,940.00	41,940.00				
5	Memorial Street - Albany Highway to Lowood Road	9.00	48.00	0	16.00	16.00	60.00	130	5.00	130	12,650.00	1,450.00		600.00	1,500.00	12,650.00	631.50	1,894.50	15,156.00		15,156.00			
6	Recreation Ground - Menton Street (up side to AC path location)	9.00	48.00	0	16.00	16.00	60.00	120	5.00	120	11,570.00	1,450.00	1	400.00		11,570.00	578.50	1,735.50	13,884.00		13,884.00			
7	Mension Street - Mondulup Street to Langton Road	9.00	290	48.00	290	16.00	60.00	420	5.00	420	59,650.00	1,450.00	5	400.00		59,650.00	2,982.50	8,947.50	71,580.00		71,580.00			
8	Mount Barker Road - Marion Street to Mondulup Road	9.00	240	48.00	240	16.00	60.00	360	5.00	360	53,140.00	1,450.00	6	400.00		53,140.00	2,657.00	7,971.00	63,768.00		63,768.00			
9	Oromond Road - Deane Street to Marion Street	9.00	48.00	0	16.00	16.00	60.00	470	5.00	470	42,720.00	1,450.00	3	300.00		42,720.00	2,136.00	6,408.00	51,264.00		51,264.00			
10	Mount Barker Road - Menton Street to Lowood Road	9.00	48.00	0	16.00	16.00	60.00	410	5.00	410	39,310.00	1,450.00	4	300.00		39,310.00	1,965.50	5,896.50	47,172.00		47,172.00			
11	Lowood Road - Marion Street to Mondulup Street	9.00	48.00	0	16.00	16.00	60.00	450	5.00	450	39,950.00	1,450.00	2	600.00		39,950.00	1,997.50	5,992.50	47,940.00		47,940.00			
12	Mondulup Street (Albany Highway to Lowood Road)	9.00	48.00	0	16.00	16.00	60.00	300	5.00	300	48,550.00	1,450.00	1	800.00	22,000.00	48,550.00	2,427.50	7,282.50	58,260.00		58,260.00			
13	Albany Highway - Mondulup Street to crossing south of Booth Street	9.00	48.00	0	16.00	16.00	60.00	400	5.00	400	36,350.00	1,450.00	1	2,500.00		36,350.00	1,817.50	5,452.50	43,620.00		43,620.00			
14	Booth Street - Albany Highway to 150m west of Martin Street	9.00	690	48.00	690	16.00	60.00	0	5.00	690	50,830.00	1,450.00	5	800.00		50,830.00	2,541.50	7,624.50	60,996.00		60,996.00			
15	Athelton Street - Hassell to Hasee Street	9.00	48.00	0	16.00	16.00	60.00	140	5.00	140	14,490.00	1,450.00	2	250.00		14,490.00	724.50	2,173.50	17,388.00		17,388.00			
16	Hasee Street - Hasee Street to Hasee Street	9.00	180	48.00	180	16.00	60.00	0	5.00	180	14,360.00	1,450.00	2	300.00		14,360.00	718.00	2,154.00	17,232.00		17,232.00			
17	Hasee Street - Follows to Hassell Street	9.00	270	48.00	270	16.00	60.00	150	5.00	150	32,140.00	1,450.00	2	350.00		32,140.00	1,607.00	4,821.00	38,568.00		38,568.00			
18	Oxlands Road - Hassell Street to Recreation Ground Loop - Menton Street (cul de sac around cricket oval and down McDonald Ave to existing path)	9.00	800	48.00	800	16.00	60.00	0	5.00	800	59,100.00	1,450.00	6	800.00		59,100.00	2,955.00	8,865.00	70,920.00		70,920.00			
19	Recreation Ground Loop - Menton Street (cul de sac around cricket oval and down McDonald Ave to existing path)	9.00	48.00	0	16.00	16.00	60.00	680	5.00	680	57,530.00	1,450.00	1	1,000.00		57,530.00	2,876.50	8,629.50	69,036.00		69,036.00			69,036.00
20	prolongation of Mondulup Street to Hassell Street	9.00	48.00	0	16.00	16.00	60.00	180	5.00	180	28,080.00	1,450.00	2	600.00	10,000.00	28,080.00	1,404.00	4,212.00	33,696.00	214,800.00	224,352.00	205,692.00	213,804.00	11,432.00

ALL COSTS EXCLUDE GST

Total Programme: 970,080.00

Appendix B Bike Plan Drawings
(CK01 and CK02)



LEGEND
 Existing Footpath (AC and concrete)
 Existing Paving
 Existing Gravel Path



REV	YYMMDD	ISSUE DESCRIPTION	DRAWN	DESIGN	CHECK
A	171005	ISSUED	SEJ	IDC	GB

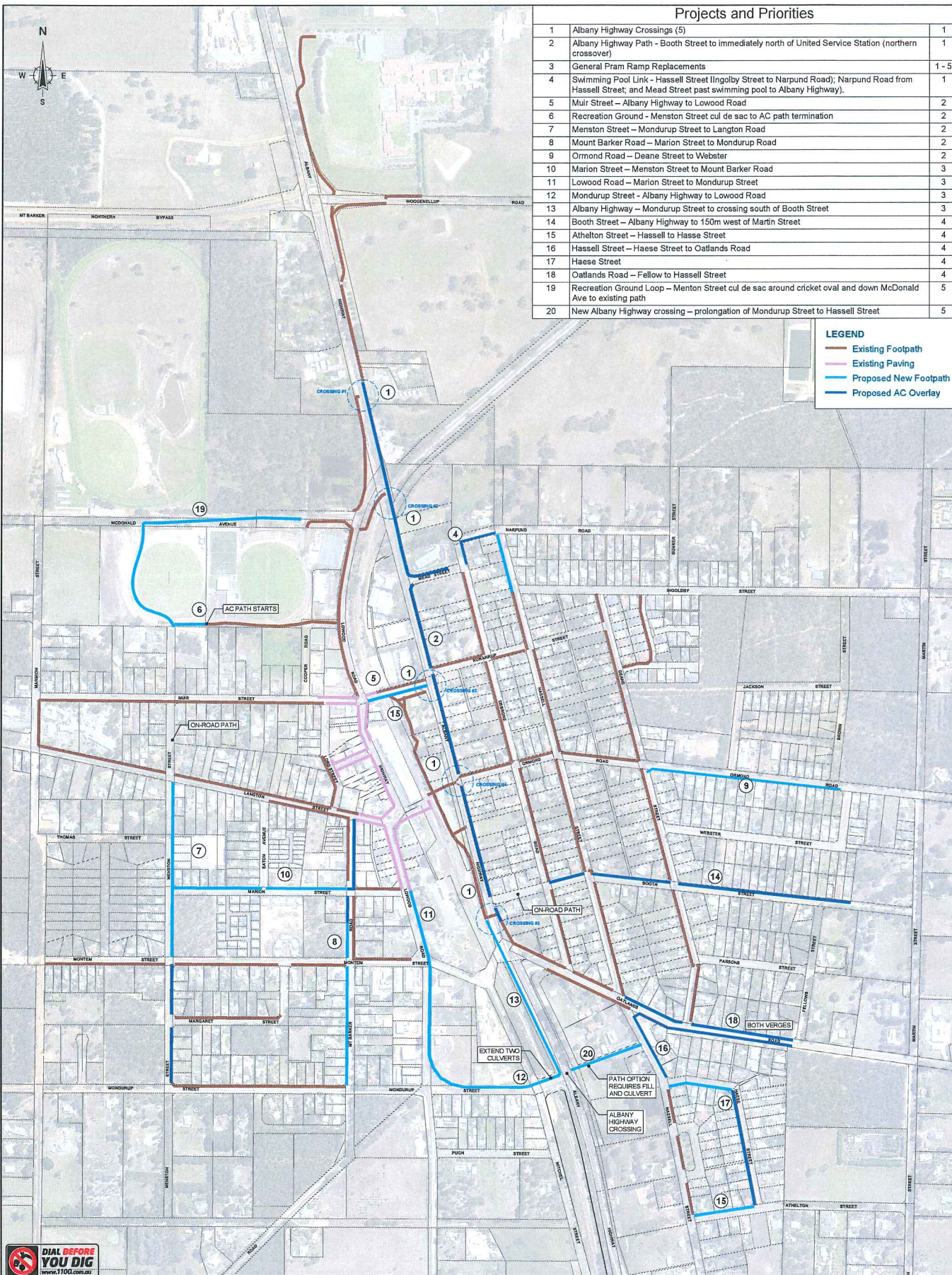
SCALE
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PROJECT
 MT BARKER BICYCLE MASTER PLAN
 MT BARKER

DRAWING TITLE		
EXISTING PATH NETWORK September 2017		
PROJECT NO.	DRAWING NO.	REVISION
16-002225	CK 01	A



Projects and Priorities

1	Albany Highway Crossings (5)	1
2	Albany Highway Path - Booth Street to immediately north of United Service Station (northern crossover)	1
3	General Pram Ramp Replacements	1 - 5
4	Swimming Pool Link - Hassell Street (Ingolby Street to Narpund Road); Narpund Road from Hassell Street; and Mead Street past swimming pool to Albany Highway).	1
5	Muir Street - Albany Highway to Lowood Road	2
6	Recreation Ground - Menston Street cul de sac to AC path termination	2
7	Menston Street - Mondurup Street to Langton Road	2
8	Mount Barker Road - Marion Street to Mondurup Road	2
9	Ormond Road - Deane Street to Webster	2
10	Marion Street - Menston Street to Mount Barker Road	3
11	Lowood Road - Marion Street to Mondurup Street	3
12	Mondurup Street - Albany Highway to Lowood Road	3
13	Albany Highway - Mondurup Street to crossing south of Booth Street	3
14	Booth Street - Albany Highway to 150m west of Martin Street	4
15	Athelton Street - Hassell to Hasee Street	4
16	Hassell Street - Hasee Street to Oatlands Road	4
17	Hasee Street	4
18	Oatlands Road - Fellow to Hassell Street	4
19	Recreation Ground Loop - Menton Street cul de sac around cricket oval and down McDonald Ave to existing path	5
20	New Albany Highway crossing - prolongation of Mondurup Street to Hassell Street	5

LEGEND

- Existing Footpath
- Existing Paving
- Proposed New Footpath
- Proposed AC Overlay



C	171117	ADD #5	SEJ	IDC	GB
B	171110	#14 TO #18	SEJ	IDC	KS
A	171005	ISSUED	SEJ	IDC	GB
REV	YYMMDD	ISSUE DESCRIPTION	DRAWN	DESIGN	CHECK

SCALE
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SCALE 1:4,000

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PROJECT
MT BARKER BICYCLE MASTER PLAN

PROJECT
MT BARKER

DRAWING TITLE PROPOSED 5 YEAR BIKE PLAN		
PROJECT NO. 16-00225	DRAWING NO. CK 02	REVISION C