



BOB HAWKE
COLLEGE

Bob Hawke College Travel Plan

NOVEMBER 2022

Draft

Travel Plan

Background

Bob Hawke College opened in February 2020 and is Western Australia's first high density public secondary college; set in the heart of Subiaco. The school landmarks the suburb's exciting transformation of the land surrounding Subiaco Oval, Subiaco East, evolving the area into a new education, leisure and residential precinct close to Perth's CBD. As a central hub for the Subiaco community, the strength of the college being a high density model for education is made opportune by its proximate location to high quality public transport options and attractive spaces for people to walk and cycle.

With shared facilities between the school and the public, it will play an important role in uniting the community and encouraging active and healthy lifestyles fostered around a highly connected transport network.

Purpose

The purpose of this Travel Plan is to set the collective aspirations for staff, students and the community and their role in achieving an efficient, safe and sustainable transport network. The outcomes of the Plan will help shape the way people get to, from and through the college.

The intent is that this is a live document that should be updated periodically to reflect the operation of the college.

Opportunities and challenges

As a high-density inner-city college, traffic management will be crucial to the operations of the network, so too will the enhancement of opportunities to use alternative travel means to private car for staff and student commutes, parent pick-up/ drop-off and visitor movements. The key opportunities and challenges of the college are listed below:

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

Opportunities:

- Subiaco is a “walkable” suburb (score of 86 on “walkscore”) and is the sixth most walkable neighbourhood in the Perth metropolitan region.
- The college is in close proximity to West Leederville Station and primary shared paths.
- A good relationship with the Public Transport Authority has led to a responsive and collaborative approach to providing efficient and convenient bus routes to service the college’s catchment.
- The Department of Transport’s ‘Your Move’ program is instilled in the culture of staff and students in considering the impact of their travel choices on the wider transport network.
- The observed access to school for students by car in Term 4, 2022 is 23%, proving that opportunities to use sustainable alternatives to the car are being embraced.
- The observed walking and cycling mode share in Term 4 2022 is high in comparison with other colleges of similar size, showing a clear appetite for increased active transport infrastructure and end-of-trip facilities.
- There is a clear understanding amongst staff and parents that access to and from the school by car is limited and, in some cases, not provided.

Challenges:

- Uncertainty around changing attitudes of new staff, students, parents and visitors to the college in future years.
- Uncertainty around the challenges posed by additional development within the Subiaco East precinct consisting of new businesses and dwellings.
- The area is under transformation with periodic construction works. This may cause temporary disruption to access and transport services .
- Quality and legibility of the network for people walking and cycling, particularly the priority and safety in crossing surrounding busy roads such as Roberts Road, Haydn Bunton Avenue and Coghlan Road.
- Eliminating the need to transport bulky items for staff and students, including deliveries.
- Pressures created by additional vehicle trips during adverse weather.

Operation of the college

The main operational of the college is the movement of students and staff to the site between 7:45am and 9:00am, and the movement from the site between 2:55pm and 3:30pm. In addition, contractors and visitors access the site on occasion from 6:00am – 6:00pm Monday to Friday.

College activities (student presentations, concerts, sporting events, Parent Information sessions, etc.) commonly take place outside of normal college hours. These activities are likely to involve moderate numbers of students, parents and staff moving to and from the college.

On weekends, the college may be frequented by visitors and members of community groups.

Key baseline information

Car parking provision

Basement parking is provided on-site on an as needs basis depending on staff and visitor requirements for the day. While visitor bays are marked for visitor-only use, parking bays are not guaranteed for staff each day. The hierarchy of staff bays will be determined and prioritised for staff who are car-pooling, or otherwise require a bay based on extra-curricular or special requirements.

Student pick-up/ drop-off bays are also provided on site.

The provision of bays at the college is shown below.

Purpose	Number of vehicle bays provided
Staff and visitors (off-street)	94 bays allocated to staff 8 executive bays allocated for visitors
ACROD (off-street)	3 denoted
Student pick-up/ drop-off (on-street)	11 bays allocated for student pick-up/ drop-off

Bicycle parking provision

Bicycle parking facilities are provided on-site for students, staff and visitors to safely and securely store their bikes throughout the day. The provision of bicycle parking bays at the college is shown below.

Purpose	Number of bicycle bays provided
Students	110 bays allocated to students
Visitor/ student overflow	50 bays allocated to visitors/ student overflow
Staff	60 bays allocated to staff

How are we currently getting to and from the college?

Baseline data for this Travel Plan was collected from the most recent Travel Survey undertaken in Term 4, 2022. A Travel Survey should be undertaken at least on an annual basis to understand and monitor how staff and students are getting to and from the college.

	Term 4, 2022	
	Students	Staff
Walking	14%	2%
Cycling	15%	12%
Public Transport	49%	16%
Private Car	23%	70%

Based on the findings of the Travel Survey, the following considerations are recommended:

- The projected total of 172 staff once the college reaches full build out would translate to a total demand of 120 car parking bays at a private car mode share of 70%. This demand is higher than the number of car parking bays proposed at full build out and could create capacity constraints if staff behaviour does not change. It is recommended that the college monitors how staff adjust to increased members and should encourage

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

carpooling and/or the uptake of walking, cycling and public transport and reinforce that provision of on site parking on a regular basis is not school policy.

- The projected total of 2,000 students once the college reaches full build out would translate to a total demand of 300 bicycle parking bays at a cycling mode share of 15%. This demand is higher than the number of bicycle parking bays proposed at full build out and could effectively 'cap' the cycling mode share and discourage students from cycling to and from the college. It is recommended that student uptake of cycling is monitored annually, and additional facilities are added to mitigate this risk. This could include installation of vertical storage bays to increase capacity in existing areas.

The Plan

Outcomes and responsibilities

Long Term Outcomes	• Encourage students and staff to use public transport and embrace walking and cycling as the primary travel choices to and from the college, particularly at peak movement times. • Mitigate the number of vehicle trips to and from the school to reduce the college's traffic impacts on the surrounding network. • Enable safe, equitable and convenient access for students, staff and visitors that prioritises access for people walking and cycling. • Provide support to environmental sustainability and encourage the wellbeing and health of students, employees and visitors through active travel choices. • Be recognised as a leader in sustainable travel choice.
Intermediate Outcomes	• Very few vehicle trips generated by the college in comparison to other means of travel. • On-site car parking provision meets essential mobility needs and does not contribute to increased vehicle use. • Majority of students and staff access the college by public transport, walking or cycling. • Student pick-up/drop-off is smooth, efficient and does not create adverse traffic impacts. • Promote staff and student engagement in Travel Plan activities by driving leadership and acceptance for student body.

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

- Established Practice**
- Organisation provides/maintains facilities that enable use of travel alternatives.
 - Organisation's policies/practices enable and encourage the use of travel alternatives, manage car commuting.
 - Students and employees are aware of and motivated to use travel alternatives.

Roles and Responsibilities	Travel Plan Coordinator	A staff member responsible for managing the development and implementation of activities outlined in the Travel Plan to support and improve transport initiatives throughout the college. Responsibilities: • Champion and manage the implementation of activities to maintain and improve the college's sustainable transport choices. • Chair the Quarterly Travel Plan Steering Group Meetings. • Manage the Travel Plan Budget. • Liaise with the relevant Local Governments and State Agencies to maintain and improve public and active transport access to the college. • Participate in the "Your Move" network and maintain the college's online profile • Review and participate in the formation of actions following the Travel Surveys.
-----------------------------------	--------------------------------	--

Travel Plan Steering Group	The Travel Plan Steering Group is made up of select staff and students who meet on a regular basis. The Steering Group will assist the Travel Plan Coordinator through recommending, implementing, managing and reviewing the college's travel initiatives and activities, while monitoring how we're going following each Travel Survey.
-----------------------------------	---

Staff	Acceptance of the Travel Plan and the sharing and promotion of events to students. Staff will also be encouraged to participate in actioning rosters and fostering safety throughout the grounds for students walking and cycling.
--------------	---



Students and
parents/
caregivers

Students and parents/caregivers will be encouraged to accept and participate in relevant actions of the Travel Plan, including embracing alternative means of travel to the car.

Activities

Infrastructure

<i>Description</i>		<i>Action</i>
1	Adequate and maintained bike parking and shower/change/locker facilities	Monitor demand and operation of facility to identify opportunities for expansion. This can be achieved by reviewing the travel survey responses and comparing bicycle mode share with the number of bicycle parking bays, bathroom facilities and lockers provided.
2	Provision of safe storage spaces for large equipment such as musical instruments	The supply of safe storage spaces will be reviewed under the circumstances of increased demand.
3	School to provide portable devices to staff (limit need to carry heavy loads)	Continue for all new staff in future.
4	School to maintain a pool of Smartrider cards that can be provided for business trips during school hours	Investigate demand for introduction. This could be achieved through a trial to test the demand.
5	Exclude the requirement for a Pool car and or car share service for business trips during school hours	It is recommended that support for a Pool car or car share service is excluded based on the grounds that the demand for vehicle travel is to be held to a minimum. This is a relatively high-cost item for the college, and investment could be better spent upgrading access for other modes of transport (i.e. expanding bicycle facilities, improving on-site footpaths, delivery services for bulky items, etc.)



6	Nominate and mark specific bays for carpooling staff	Identify and number bays following full build out. Network for staff carpooling and nomination of carpooling days to be investigated with staff.
7	Liaise with PTA and ensure bus and train routes are favourable and accessible for staff and students	Monitor intake locations of students and connectivity to public transport options. Investigate demand for a new bus service on Scarborough Beach Road and London Street to service Mount Hawthorn and North Perth catchment areas. Retain bus stop adjacent to the college on Roberts Road under both one-way and future two-way operation to encourage use of public transport and increase access to Leederville Station. Investigate viability of running School Route 728 for after school trips to offer the same service to students and staff as in the morning. Investigate an alternative Route 85 that operates between Glendalough Station and Perth Busport via West Leederville Station, in order to minimise walk from the college.
8	Investigate and advocate for safe crossing points on the surrounding road network to enhance walking and cycling connectivity to the college	Investigate warrants required for the provision of safe crossings on Coghlan Road* and implementation of signalised pedestrian crossing phases at the future Roberts Road/Coghlan Road intersection (ref. Attachment 1). Liaise with City of Subiaco and/or relevant State Agencies for funding and implementation. Liaise with nearby local governments and advocate for crossing improvements along key walking and cycling desirelines (ref. Attachment 2). Investigate the introduction of a slow point on the Fremantle Line PSP between Coghlan Road and Court Place. *Refer to Section 9.2.1, Page 136 of the Department of Transport's Planning and Designing for Pedestrians Guidelines.

Policy/work practices

<i>Description</i>		<i>Action for Steering Group</i>
1	Use of Webex	As a result of the Covid-19 pandemic, the college has transitioned successfully to the use of virtual platforms for meetings and in some cases, classwork. This should be continued in future.
2	Continue collaborating with "Your Move" for future events, promotions and educational purposes.	Continue fostering relationship through the Steering Group and student groups and promoting events and campaigns through school newsletters and communications.
3	Establish a Travel Plan Coordinator and Travel Plan Steering Group at the college	Commence meetings to review and organise future Travel Surveys, at least on an annual basis to understand mode choices and trends. The Steering Group is also responsible for driving the implementation of the Travel Plan and the associated monitoring, noting that the Travel Plan is a live document.
4	Create and maintain a parking policy that includes hierarchy of basement parking usage	Continue messages that parking bays are not provided or guaranteed for dedicated use by any member of staff or for Senior students. Hierarchy to be determined through rostering, need and/or carpooling purposes when demand constraints are experienced following full build out.
5	Create and maintain a Student pick-up/drop-off procedure and staff roster	Continue to enforce and review roster. Work closely with the City of Subiaco to enforce the operation of the facility (i.e. mitigating double parking, long dwell times and illegal parking).
6	Minimise physical document requirements and encourage a paperlite operating environment	Continue in future.
7	Incentives for staff that on average use active	Through the travel survey of staff and students, aim to understand barriers to using active transport or public transport. Investigate potential

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

	transport at least 4 days a week	incentives that may drive a shift away from private car use.
8	Flexible hours for Senior students (staggered between 8am – 4pm daily)	Implement once Senior students are attending the college.
9	Travel Plan surveys (February and November) and review of Travel Plan	Communicate Travel Plan measures and outcomes through staff, students and parents/caregivers, to increase awareness and participation of surveys.

Information/culture		
	<i>Description</i>	<i>Action for Steering Group</i>
1	Develop and make available a college Access Guide promoting active and public transport options.	To be provided during staff and student inductions. Access to the guide to be made available online (budget for printing to be allocated by Principal) and posted on information boards throughout the college.
2	Student pick-up/drop-off procedure to be enforced by staff.	Parents/caregivers to be notified of procedure during student enrolment, with staff reminded and trained of the procedure annually.
3	Calendar of Active Transport and Promotional activities to be established e.g. Bike Month (Biketober) events, Ride to school day, etc.	Access to information to be made available online and posted on information boards throughout the college. Steering Group to present on benefits of events during information sessions. Continue promotion of Tuesday active transport days.
4	Travel planning sessions for staff	Steering Group to investigate how these sessions could run. Could involve participation from the PTA and/or "Your Move". Either during group sessions and/or 1:1 between staff.

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

5	Personal transport pledges	Facilitated through Steering Group and involvement sought from staff and students.
6	Bicycle skills education	Continue strong participation with “Your Move” in future.
7	Managers leading by example	Continue in future. Can be promoted through parking priority given to members of staff who carpool, or keeping up staff participation in walking, cycling or using public transport to access the college.
8	Discount bicycle maintenance	Continue support for free bicycle maintenance stores on site.
9	Promote sustainable travel use	Promote how we’re going throughout the college’s communication pathways (i.e. survey results, targets, good stories of active travel, regular updates to P&C board).

Conclusion

The outcomes and activities of this Travel Plan will guide the way staff and students travel to and from the college, enhancing the safety, sustainability and efficiency of the transport network. The Travel Plan Coordinator and the Travel Plan Steering Group will help implement, organise and manage the activities laid out by the Plan, through support and engagement from staff members and students.

The Plan is intended to be a live document and will be updated and reviewed on at least an annual basis.



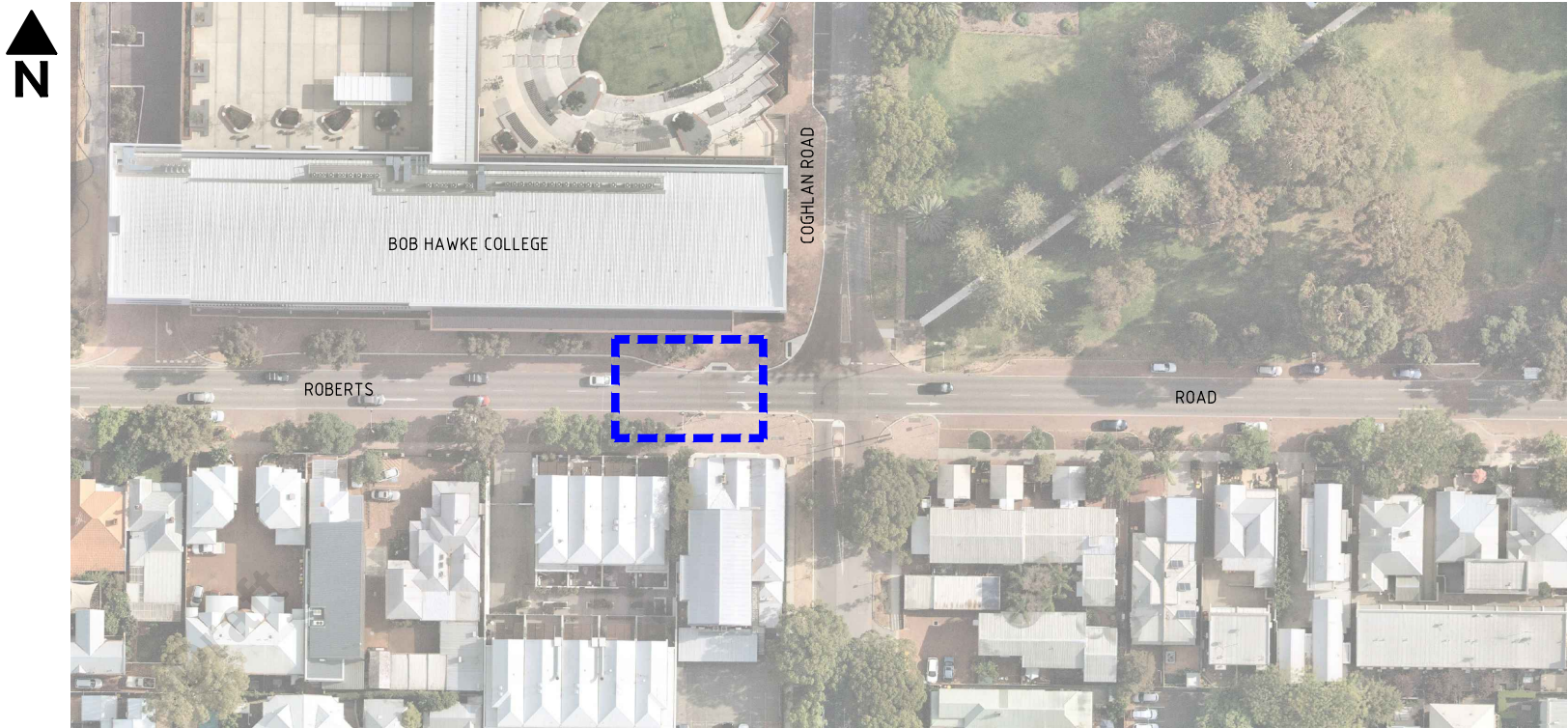
BOB HAWKE
COLLEGE

Attachment 1

Roberts Road/Coghlan Road signalised pedestrian crossing LM01263

Draft

ROBERTS ROAD (0005)
NEAR COGHLAN ROAD (0032)
SIGNALISED PEDESTRIAN CROSSING
LM01263
(127) CITY OF SUBIACO



LOCALITY PLAN
N.T.S.

DESIGN DRAWING INDEX		
DRAWING No.	REV No.	DESCRIPTION
202048-5509	C	LOCALITY PLAN AND DRAWING INDEX
202048-5510	C	CIVIL MODIFICATIONS
202048-5511	C	TYPICAL CIVIL DETAILS
202048-5512	C	TRAFFIC SIGNAL DESIGN
202048-5513	C	PAVEMENT MARKING & MINOR SIGNING
202048-5514	C	CONNECTIVITY & SINGLE LINE DIAGRAM

MRWA STANDARD DRAWINGS		
DRAWING No.	REV No.	DESCRIPTION
8320-400	29	ELECTRICAL PRESENTATION LEGEND
0948-0204	0	ITS PRESENTATION LEGEND
0948-0205	0	ITS PRESENTATION LEGEND (DEVICE EXAMPLES)
9931-0198	15	PAVEMENT MARKING LINE TYPES
201031-0026	6	RAISED PAVEMENT MARKER GENERAL APPLICATIONS
201031-0027	5	RAISED PAVEMENT MARKER GENERAL APPLICATIONS
200431-0147	0	SIGNAL POST & STUB POST
9331-0376	4	KERB TYPES
9331-0377	5	KERBING TREATMENTS
9831-5649	3	RAMP & GRAB RAIL DETAILS
200931-0089	5	TACTILE GROUND SURFACE INDICATORS RAMP TYPE 'A' & 'B' DETAILS
200431-0116	8	MID-BLOCK PEDESTRIAN CROSSINGS - SIGNS & PAVEMENT MARKING
200431-0123	0	TRAFFIC SIGNAL CONTROL SIGNALS - CONTROLLER FOOTING & MOUNTING DETAILS
0330-1944	0	TRAFFIC SIGNAL MAST - 5.5m OUTREACH

AMENDMENTS

No.	DATE	DESCRIPTION	DRN	ENG	APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP	RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP	RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP	SG

LEGEND

■ ■ ■ ■ ■ APPROXIMATE LOCATION OF WORKS

REV C CHANGES:

202048-5510 - MINOR CIVIL MODIFICATIONS

- VERGE BUILD OUT TREATMENT CHANGED FROM PAVING TO MULCH
- TRAFFIC SIGNAL BLOCK OUTS SHOWN, NOTE 12 ADDED.

202048-5511 - TYPICAL CIVIL DETAILS

- DETAIL 'F' ADDED

202048-5512 - TRAFFIC SIGNAL MODIFICATIONS

- POLE 3 MAST ARM REVISED TO 5.5m
- NOTE 5 REVISED
- PUSH BUTTON ORIENTATION REVISED ON POLES 3 & 4
- WP UMS LOCATION REVISED TO ACTUAL LOCATION
- NOTE 11 & 12 ADDED

202048-5513 - PAVEMENT MARKING & MINOR SIGNING

- R5-20 & R5-35 SIGNS RELOCATED 10m FROM STOPLINE
- SIGN CORRECTED TO R5-10
- R2-2 SIGN SIZES CORRECTED
- BROKEN LANE LINE ADDED TO COGHLAN RD

202048-5514 - CONNECTIVITY & SINGLE LINE ADDED

- ITEMS 16 & 17 ADDED

THIS DESIGN WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY FOR REVIEW & CONSTRUCTION PURPOSES. THIS DRAWING SHOULD BE PRINTED & COPIED IN COLOUR TO ENSURE THAT THE FULL INTENT OF THE DRAWING IS CONVEYED.

REFERENCES

DRAWING No.	DESCRIPTION

VENTURE SMART

A Johnson Controls and Ventia Joint Venture

Venture Smart Pty Ltd

20 Orion Road,
Jandakot, WA 6164

mainroads

WESTERN AUSTRALIA

METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION

WATERLOO CRESCENT EAST PERTH 6892
Telephone: (08) 9323 4111 Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	23.07.2020
ENGINEER:	E. POLLARD	DATE:	23.07.2020
VERIFIED:	VARIOUS	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022

ROBERTS ROAD (0005)
NEAR COGHLAN RD (0032)

LOCALITY PLAN AND DRAWING INDEX

LOCAL AUTHORITY: (127) CITY OF SUBIACO

MRWA DRG No: 202048-5509

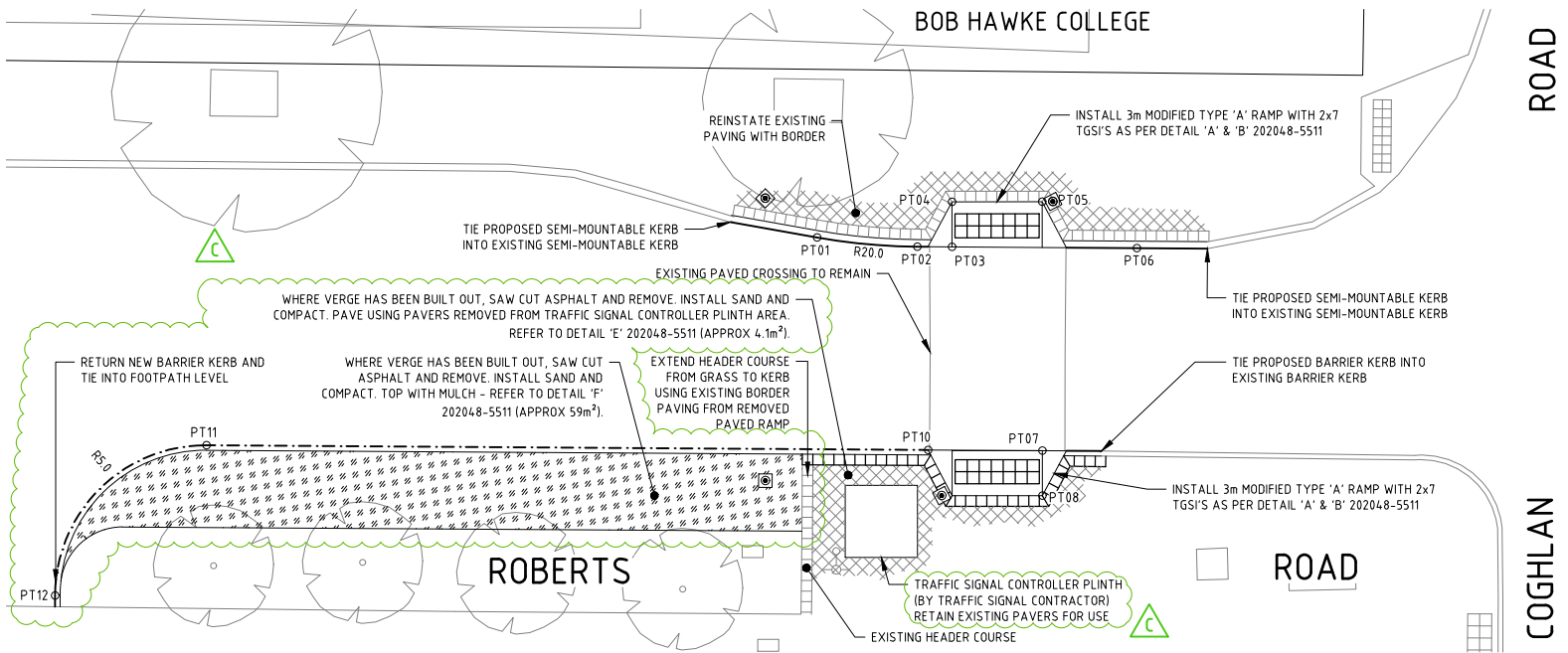
MRWA ASSET No:

REV: C

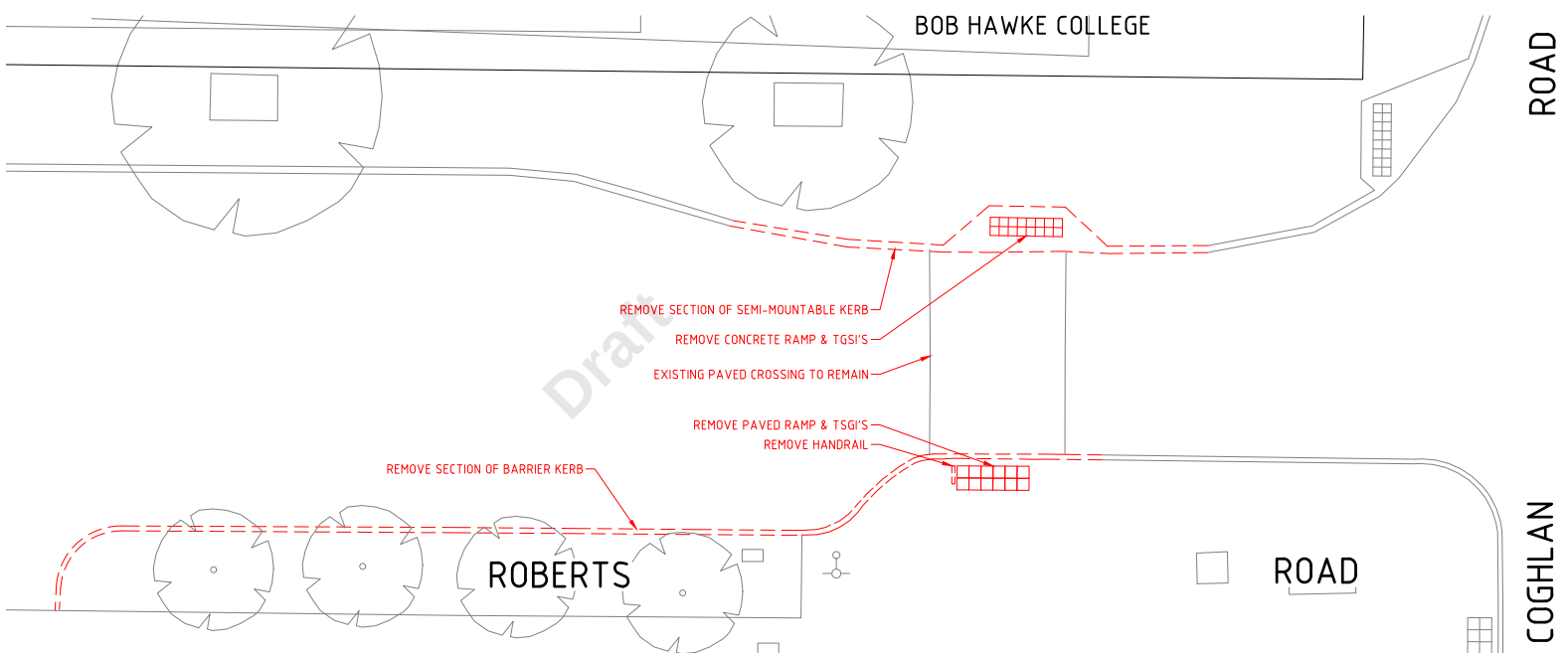
TYPE:

SHEET: 1 of 6

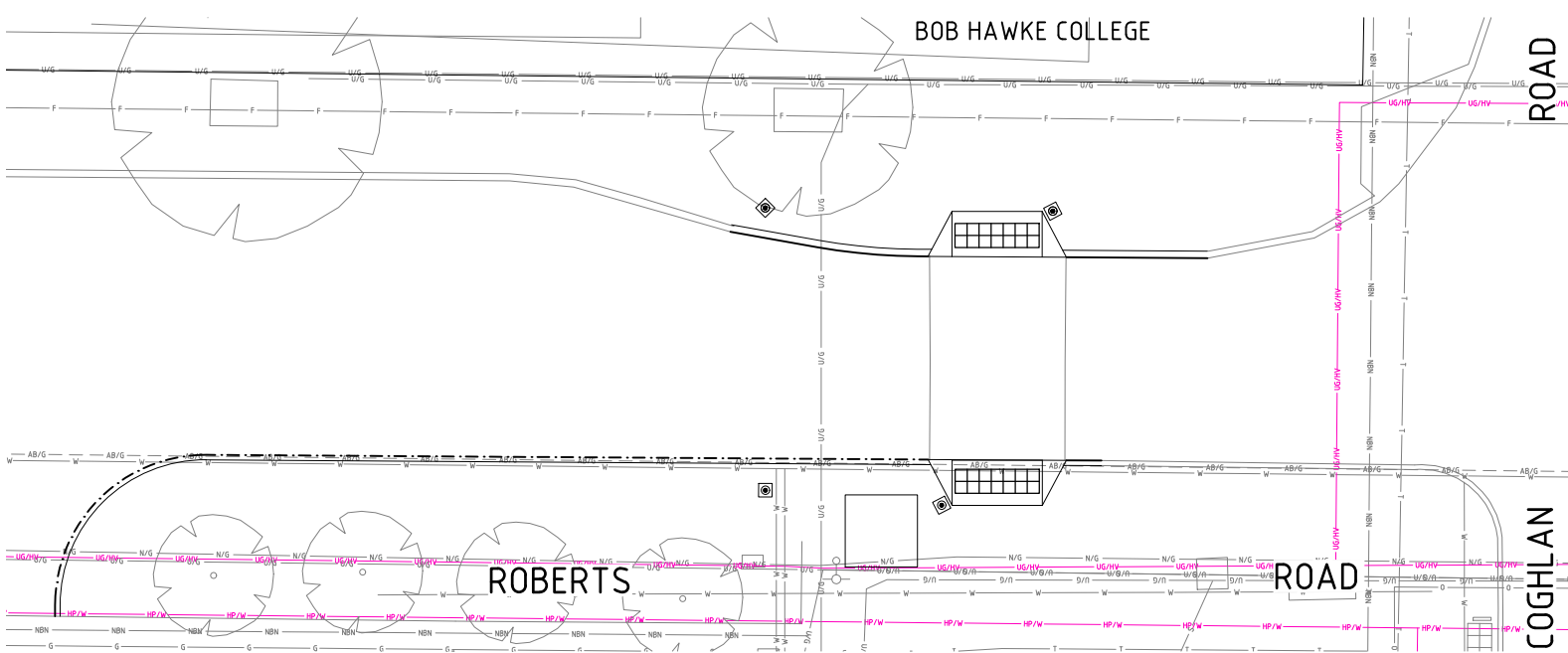
SCALE: N.T.S.
A
1
COMMISSIONED:



CIVIL MODIFICATIONS LAYOUT



REMOVALS LAYOUT



SERVICES LAYOUT

SETTING OUT POINTS		
PROJECT GRID: PCG94		
PTNo.	EASTING	NORTHING
PT01	51514.670	264203.981
PT02	51518.007	264203.678
PT03	51519.161	264203.671
PT04	51519.160	264205.171
PT05	51522.160	264205.172
PT06	51525.309	264203.630
PT07	51522.164	264196.894
PT08	51522.165	264195.396
PT10	51518.364	264196.916
PT11	51494.362	264197.073
PT12	51489.329	264192.073

AMENDMENTS					
No.	DATE	DESCRIPTION	DRN	ENG	APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP	RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP	RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP	SG

NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE MRWA SPECIFICATIONS.
- COORDINATE THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORKS. ANY CONFLICTS ARE TO BE REPORTED IMMEDIATELY TO THE PROJECT MANAGER.
- CONCRETE TACTILE PAVERS TO BE INSTALLED AS PER AS/NZS 1428.4.1: 2009
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE SHOWN.
- ALL KERB RADIIUSES TO BE 300mm UNLESS STATED OTHERWISE.
- REFER TO DRAWING 202048-5511 FOR MODIFIED RAMP, PAVEMENT DETAILS AND KERB DETAILS.
- EDGE OF RAMP SHALL BE FLUSH WITH ROAD PAVEMENT (ASPHALT OR SEAL).
- EXISTING REMOVED MATERIAL TO BE RE-USED ON SITE WHERE POSSIBLE.
- ALL NEW KERBING TO MATCH EXISTING KERB TYPES.
- SURVEY CONTROL POINTS TO BE DETERMINED ON SITE BY CIVIL CONTRACTOR
- ELEMENTS TO BE REMOVED SHOWN IN RED AS PER PROJECT OWNERS REQUEST SPECIFIED IN WORK AUTHORISATION FORM
- CIVIL CONTRACTOR TO LEAVE 450mmx450mm BLOCK OUTS IN PROPOSED PAVEMENTS AROUND TRAFFIC SIGNAL POLES. TRAFFIC SIGNAL CONTRACTOR TO INSTALL 450mmx450mmx50mm THICK CONCRETE SURROUND AS PER SPECIFICATION 712.

EXISTING CRITICAL SERVICES

CRITICAL SERVICES WITHIN VICINITY OF WORKS. CONTRACTOR TO COMPLY WITH RELEVANT SERVICE AUTHORITY REQUIREMENTS

- HP/W WATER MAIN - HIGH PRESSURE/CRITICAL
- U/G/W UNDERGROUND POWER - HIGH VOLTAGE (11kV-33kV)

EXISTING SERVICES

- AB/G ABANDONED GAS MAIN
- F FIBRE
- G GAS MAIN
- NBN NBN LINE
- N/G NEXTGEN LINE
- O OPTUS LINE
- T TELSTRA LINE
- F TELSTRA OPTIC FIBRE
- U/G UNDERGROUND POWER
- W WATER MAIN

REFERENCES

DRAWING No.	DESCRIPTION
202048-5511	CIVIL MODIFICATIONS
202048-5512	TYPICAL CIVIL DETAILS
202048-5513	TRAFFIC SIGNAL DESIGN
202048-5513	PAVEMENT MARKING & MINOR SIGNING



Venture Smart Pty Ltd

20 Orion Road,
Jandakot, WA 6164



METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION

WATERLOO CRESCENT
Telephone: (08) 9323 4111

EAST PERTH 6892
Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	23.07.2020
ENGINEER:	E. POLLARD	DATE:	23.07.2020
VERIFIED:	S. FREZZA	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022

ROBERTS ROAD (0005)
NEAR COGHLAN RD (0032)

CIVIL MODIFICATIONS

LOCAL AUTHORITY:	(127) CITY OF SUBIACO	REV:	C	SHEET:
MRWA DRG No:	202048-5510	TYPE:	2	of 6
MRWA ASSET No:				

PROPOSED LEGEND

- PROPOSED CONCRETE TACTILE GROUND SURFACE INDICATORS (TGS'S) REFER TO DETAIL 'A' & 'B' DRAWING 202048-5511 FOR DETAILS
- PROPOSED SEMI-MOUNTABLE KERB (TYPE SM) U.N.O REFER TO MRWA STANDARD DRAWING NO. 9331-0376
- PROPOSED BARRIER KERB (TYPE BX) REFER TO MRWA STANDARD DRAWING NO. 9331-0376

- EXISTING PAVING WITH EXISTING CONTRASTING BORDER TO BE REUSED/REINSTATED.

- EXISTING PAVING REUSED/REINSTATED WITH NEW CONTRASTING HEADER COURSE PAVERS. REFER TO DETAIL 'E' DRAWING 202048-5511 FOR DETAILS.
- PROPOSED CONTRASTING HEADER COURSE = MIDLAND BRICK MASTERPAVE 200x200x60mm CLASSIC PEWTER

- MULCH 'PMB BOUTIQUE'

REMOVALS LEGEND

- REMOVE EXISTING CONCRETE RAMP/FOOTPATH/KERB
- REMOVE EXISTING TGS'S

SURVEY LEGEND (EXISTING TO REMAIN)

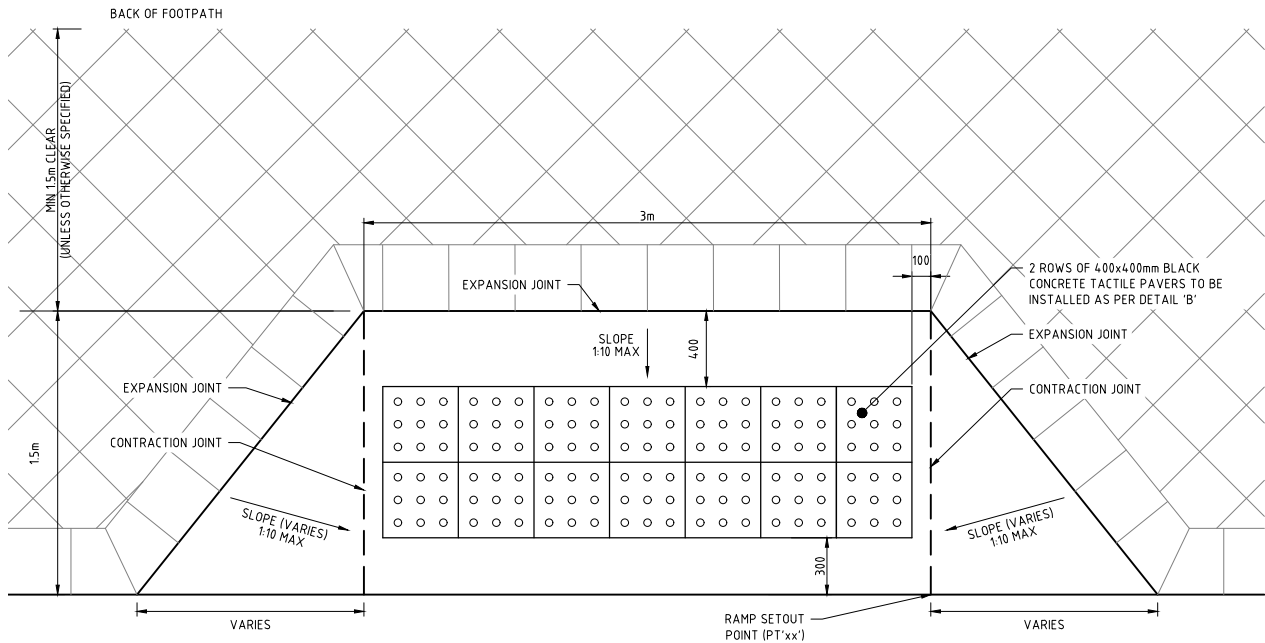
- EXISTING TREE
- EXISTING STREET LIGHT
- EXISTING PIT - VARIOUS SERVICES
- EXISTING TACTILE GROUND SURFACE INDICATORS (TGS'S)

THIS DESIGN WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY FOR REVIEW & CONSTRUCTION PURPOSES. THIS DRAWING SHOULD BE PRINTED & COPIED IN COLOUR TO ENSURE THAT THE FULL INTENT OF THE DRAWING IS CONVEYED.



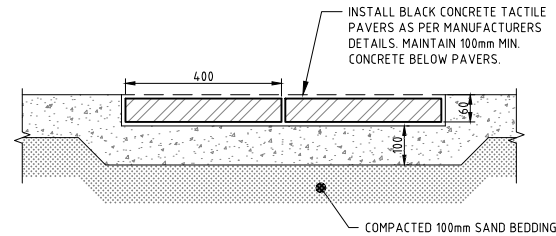
WARNING

BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.



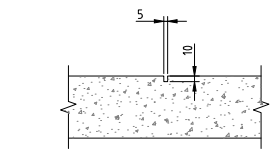
A TYPICAL MODIFIED TYPE 'A' RAMP

- DETAIL
SCALE: 1:20
- EDGE OF RAMP SHALL BE FLUSH WITH ROAD PAVEMENT (ASPHALT OR SEAL).
 - ALL CONCRETE SHALL CONTAIN WASHED AGGREGATE AND BE PAINTED FINISHED ACROSS THE DIRECTION OF PEDESTRIAN TRAFFIC TO PROVIDE A NON-SLIP SURFACE.
 - ALL VERGE AREAS SURROUNDING PRAM RAMP (EG. FOOTPATH, PAVING, GRASS) TO BE REINSTATED TO NEW LEVELS FLUSH WITH RAMP EDGES.
 - WINGS TO APRON TO BE A MAX SLOPE OF 1 IN 10. IF 1 IN 10 SLOPE NOT POSSIBLE DUE TO OBSTRUCTION, SLOPE CAN BE INCREASED WITH THE APPROVAL OF MRWA.
 - CONCRETE CLASS SHALL BE 25MPA, NOMINAL THICKNESS 100mm MIN



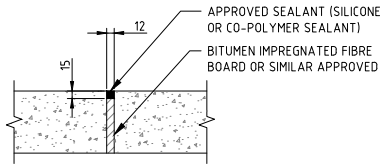
B CONCRETE TACTILE GROUND SURFACE INDICATORS (TGSi'S)

SECTION
SCALE: N.T.S



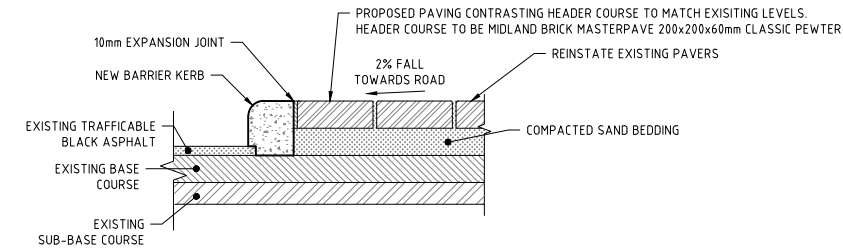
C CONTRACTION JOINT

SECTION
SCALE: N.T.S



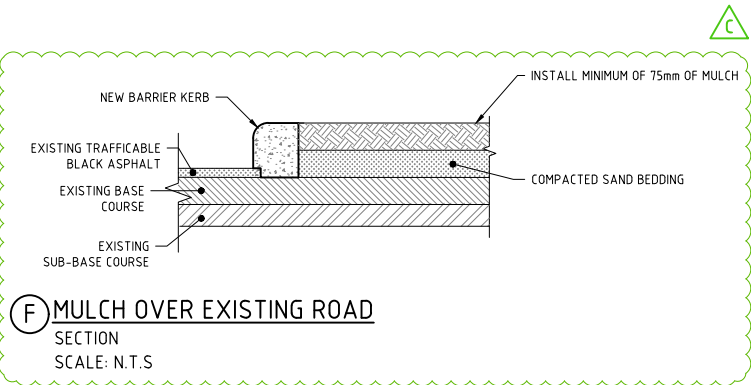
D EXPANSION JOINT

SECTION
SCALE: N.T.S



E PAVING OVER EXISTING ROAD

SECTION
SCALE: N.T.S



F MULCH OVER EXISTING ROAD

SECTION
SCALE: N.T.S

AMENDMENTS					
No.	DATE	DESCRIPTION	DRN	ENG	APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP	RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP	RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP	SG

GENERAL NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE MRWA SPECIFICATIONS.
- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.

REFERENCES	
DRAWING No.	DESCRIPTION
202048-5510	CIVIL MODIFICATIONS
202048-5512	TYPICAL CIVIL DETAILS
202048-5512	TRAFFIC SIGNAL DESIGN
202048-5513	PAVEMENT MARKING & MINOR SIGNING



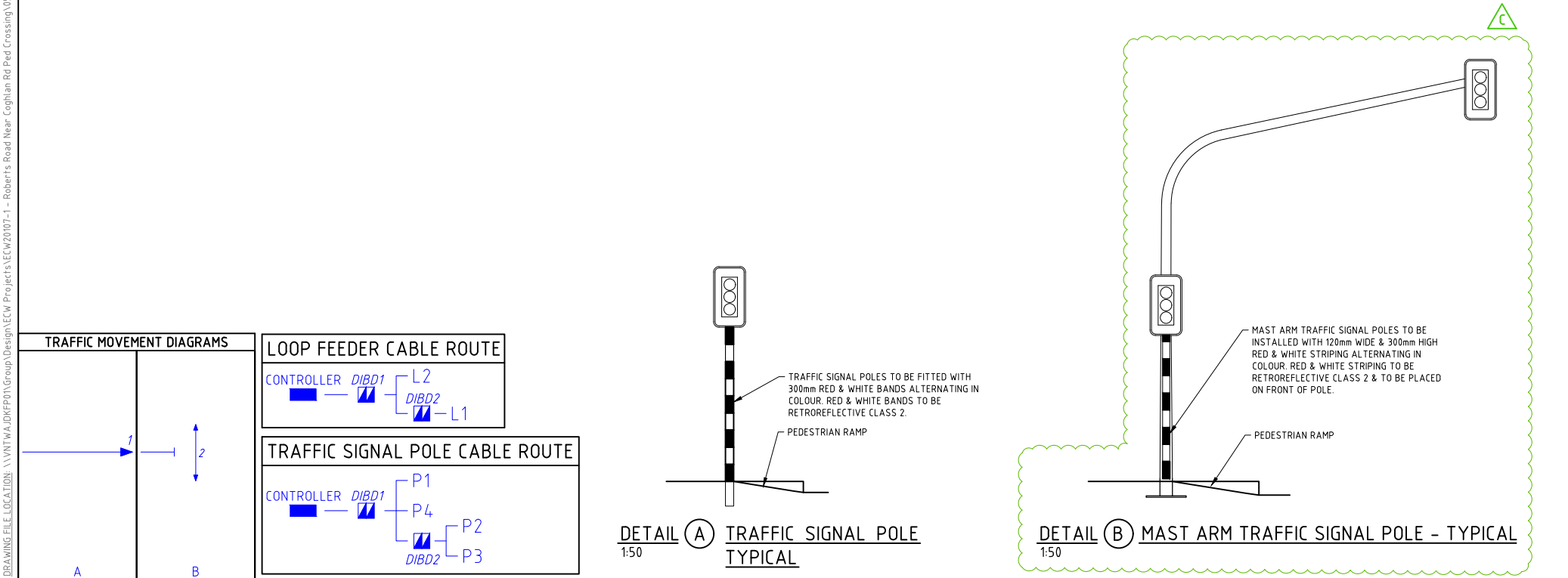
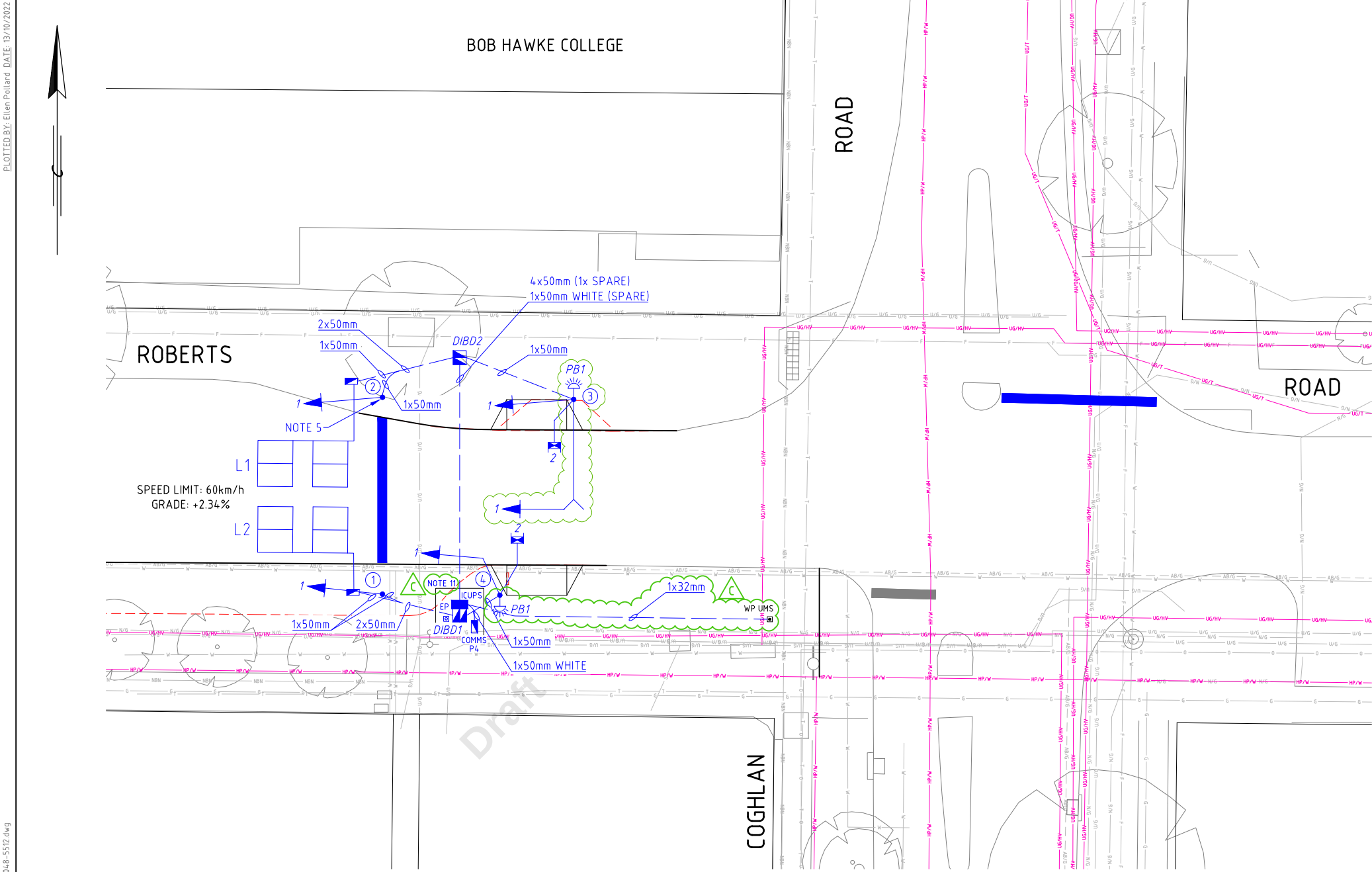
Venture Smart Pty Ltd
20 Orion Road,
Jandakot, WA 6164



METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION
WATERLOO CRESCENT
Telephone: (08) 9323 4111
EAST PERTH 6892
Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	23.07.2020
ENGINEER:	E. POLLARD	DATE:	23.07.2020
VERIFIED:	S. FREZZA	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022

ROBERTS ROAD (0005) NEAR COGHLAN RD (0032)		
TYPICAL CIVIL DETAILS		
LOCAL AUTHORITY: (127) CITY OF SUBIACO	REV: C	SHEET: 3 of 6
MRWA DRG No: 202048-5511	TYPE:	
MRWA ASSET No:		



SURVEY LEGEND



EXISTING CRITICAL SERVICES

- CRITICAL SERVICES WITHIN VICINITY OF WORKS. CONTRACTOR TO COMPLY WITH RELEVANT SERVICE AUTHORITY REQUIREMENTS
- HP/W WATER MAIN - HIGH PRESSURE/CRITICAL
 - UG/HV UNDERGROUND POWER - HIGH VOLTAGE (1kV-33kV)
 - UG/T UNDERGROUND POWER - TRANSMISSION LINE 132kV

EXISTING SERVICES

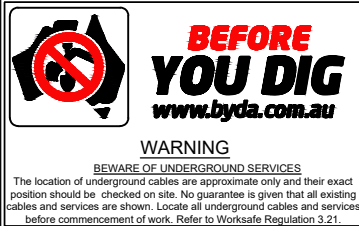
- AB/G ABANDONED GAS MAIN
- F FIBRE
- G GAS MAIN
- NBN NBN LINE
- N/G NEXTGEN LINE
- O OPTUS LINE
- T TELSTRA LINE
- F TELSTRA OPTIC FIBRE
- UG UNDERGROUND POWER
- W WATER MAIN

CONTROLLER AND PIT LOCATIONS
PROJECT GRID: PCG94

PIT No.	EASTING	NORTHING
DIBD1	51516.809	264194.930
DIBD2	51516.809	264194.391
DIBD3	51516.809	264207.273

TRAFFIC SIGNAL POLE LOCATIONS
PROJECT GRID: PCG94

POLE No.	EASTING	NORTHING
1	51512.949	264195.451
2	51512.949	264205.288
3	51522.511	264205.183
4	51518.815	264195.399



AMENDMENTS				
No.	DATE	DESCRIPTION	DRN	ENG APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP SG

GENERAL NOTES

- THIS DRAWING MUST BE READ IN CONJUNCTION WITH MRWA SPECIFICATION 712 - TRAFFIC SIGNALS.
- ALL NEW ASSETS ARE SHOWN IN BLUE (FOR CONSTRUCTION). EXISTING TRAFFIC SIGNAL ASSETS TO BE REMOVED SHOWN IN RED AND EXISTING TO BE RETAINED SHOWN IN BLACK.

SITE SPECIFIC NOTES

- INSTALL NEW ATSC4 / ICUPS CONTROLLER WITH NEW BASE IN ACCORDANCE WITH MRWA DWG NO 200431-0123.
- NEW STAR WIRING SYSTEM WITH 19 CORE POLE CABLES WIRED INDIVIDUALLY BACK TO THE CONTROLLER.
- TRAFFIC SIGNAL CONTRACTOR TO ARRANGE THE POWER SUPPLY CONNECTION AND COMMS TO THE SIGNAL CONTROLLER.
- SPARE CONDUITS TO BE TAKEN INTO NEAREST PIT AS SHOWN UNLESS OTHERWISE DENOTED.
- INSTALL NEW MAST ARM TRAFFIC SIGNAL POLE 3 WITH 5.5m OUTREACH AS PER MRWA STANDARD DRAWING 0330-1946.
- ALL TRAFFIC SIGNAL POLES & MAST ARM TO BE FITTED WITH 300mm RED & WHITE (RETROREFLECTIVE CLASS 2) BANDS ALTERNATING IN COLOUR. MAST ARM TO HAVE CUSTOM STICKER PRODUCED. REFER TO DETAIL 'A' & 'B' THIS DRAWING.
- ELEMENTS TO BE REMOVED SHOWN IN RED AS PER PROJECT OWNERS REQUEST SPECIFIED IN WORK AUTHORISATION FORM.
- INSTALL PEDESTRIAN COUNTDOWN TIMER WALK DON'T WALK LANTERNS TO PEDESTRIAN CROSSING.
- WP UMS HAS BEEN APPLIED FOR - REFER TO PROJECT MANAGER.
- PROPOSED ELV SITE. THIS SITE TO BE CONSTRUCTED WITH A 42V AC OUTPUT CONTROLLER & 42V DIM BY WIRE LANTERNS. MRWA TO PROVIDE CONTRACTOR WITH DOCUMENTATION AND SPECS FOR EQUIPMENT AND INSTALLATION.
- PAYERS REMOVED FOR TRAFFIC SIGNAL PLINTH TO BE REUSED AS PART OF CIVIL WORKS ON SITE. TRAFFIC SIGNAL CONTRACTOR TO LIAISE WITH CIVIL CONTRACTOR.
- CONTRACTOR TO INSTALL 1x32mm ORANGE CONDUIT FROM EXISTING UMS PIT TO PROPOSED TRAFFIC SIGNAL CONTROLLER.

THIS DESIGN WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY FOR REVIEW & CONSTRUCTION PURPOSES. THIS DRAWING SHOULD BE PRINTED & COPIED IN COLOUR TO ENSURE THAT THE FULL INTENT OF THE DRAWING IS CONVEYED.

NEW SITE - LM01263	
CONTROLLER	ATSC4 42V OUTPUT / ICUPS (8SG/16 DETECTOR/BT/3G/SIM)
COMMUNICATIONS	4G
BLUE TOOTH	CAPABILITY NOT ACTIVE - VC6.1 PROCESSOR CARD
SURVEY GRID	PCG94

REFERENCES	
DRAWING No.	DESCRIPTION
8320-0400	ELECTRICAL PRESENTATION LEGEND
20204-8-5513	TRAFFIC SIGNAL DESIGN
20204-8-5513	PAVEMENT MARKING & MINOR SIGNING
20204-8-5514	CONNECTIVITY & SINGLE LINE DIAGRAM

VENTURE SMART
A Johnson Controls and Ventia Joint Venture

Venture Smart Pty Ltd
20 Orion Road,
Jandakot, WA 6164

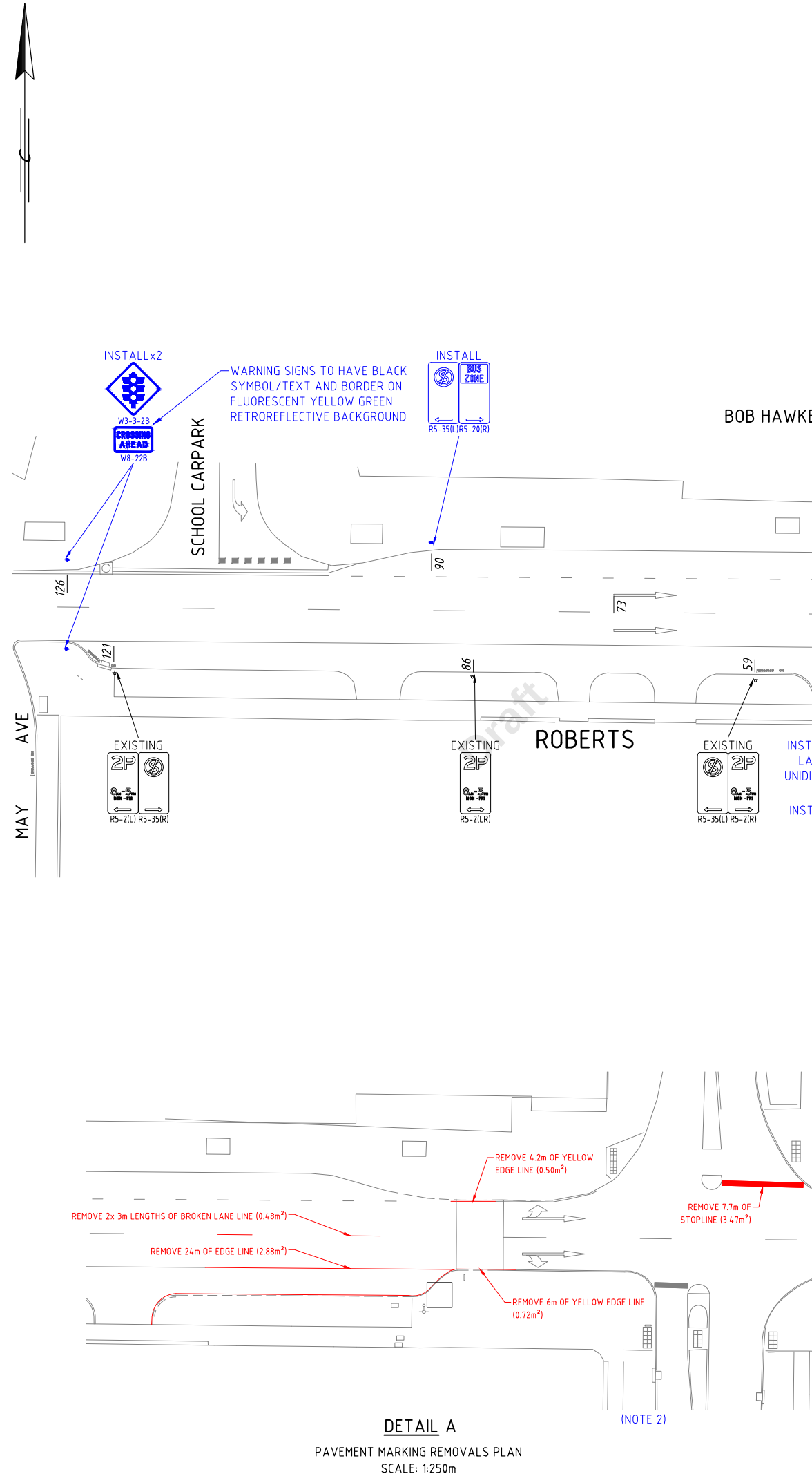
mainroads
WESTERN AUSTRALIA

METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION

WATERLOO CRESCENT
Telephone: (08) 9323 4111

EAST PERTH 6892
Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	23.07.2020
ENGINEER:	E. POLLARD	DATE:	23.07.2020
VERIFIED:	I. BYL	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022
ROBERTS ROAD (0005) NEAR COGHLAN RD (0032)			
TRAFFIC SIGNAL DESIGN			
LOCAL AUTHORITY:	(127) CITY OF SUBIACO	REV:	C
MRWA DRG No:	202048-5512	TYPE:	A
MRWA ASSET No:	LM01263	SHEET:	4 of 6



DETAIL A
PAVEMENT MARKING REMOVALS PLAN
SCALE: 1:250m

THIS DESIGN WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY FOR REVIEW & CONSTRUCTION PURPOSES. THIS DRAWING SHOULD BE PRINTED & COPIED IN COLOUR TO ENSURE THAT THE FULL INTENT OF THE DRAWING IS CONVEYED.

BEFORE YOU DIG
www.byda.com.au

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

AMENDMENTS					
No.	DATE	DESCRIPTION	DRN	ENG	APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP	RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP	RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP	SG

GENERAL NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE MRWA SPECIFICATIONS.
- REUSE ALL EXISTING MATERIALS ON SITE WHERE POSSIBLE.

SITE SPECIFIC NOTES

1. CHANGES/MODIFICATIONS TO BE UNDERTAKEN ARE SHOWN IN BLUE/RED FOR CONSTRUCTION.

PAVEMENT MARKING:

- PROPOSED PAVEMENT MARKING SHOWN IN BLUE
- EXISTING PAVEMENT MARKING SHOWN IN GREY TO REMAIN.
- EXISTING PAVEMENT MARKING SHOWN RED TO BE REMOVED.

SIGNAGE:

- PROPOSED SIGNAGE SHOWN IN BLUE
- EXISTING SIGNAGE SHOWN IN BLACK TO REMAIN (EXISTING)
- EXISTING SIGNAGE SHOWN IN RED TO BE REMOVED.

2. ALL EXISTING PAVEMENT MARKING TO BE REMOVED (SHOWN IN RED) AND HAS NOT BEEN SUBJECTED TO RESURFACING IS TO BE REMOVED BY EITHER WATER BLASTING OR WET GRINDING. METHOD TO BE DETERMINED ON SITE DEPENDING ON EXISTING ROAD SURFACE CONDITION TO MINIMISE ANY DAMAGE TO ROAD SURFACE. EXISTING 'TO BE REMOVED' PAVEMENT MARKINGS NEAR NEW LOOPS ARE TO BE REMOVED PRIOR TO LOOPS BEING CUT.

3. THIS DESIGN HAS BEEN PRODUCED USING FEATURE SURVEY PROVIDED.

4. NON-STANDARD 3m CROSSING IMPLEMENTED AS PER PROJECT SCOPE.

PAVEMENT MARKING & LINING CONSTRUCTION DETAILS

- TRANSVERSE MARKINGS & SYMBOLS TO BE "4 YEAR LIFE." AND LONGITUDINAL LINING TO BE PAINT.
- ALL PAVEMENT MARKINGS AND LINING TO HAVE GLASS BEADS APPLIED

PROPOSED LEGEND

	PROPOSED ONE POST SIGN
	PROPOSED VEHICLE LOOP DETECTOR

EXISTING LEGEND

	ONE POST SIGN
	TRAFFIC SIGNAL POLE (FINAL LOCATION)
	PAVEMENT MARKING

EXISTING TO BE REMOVED LEGEND

	ONE POST SIGN
	PAVEMENT MARKING TO BE REMOVED

ABBREVIATIONS

(STLP)	STRAPPED TO LIGHT POLE
--------	------------------------

REFERENCES

DRAWING No.	DESCRIPTION
9931-0198	PAVEMENT MARKING LINE TYPES
201031-0026	RAISED PAVEMENT MARKERS - GENERAL APPLICATION
201031-0027	RAISED PAVEMENT MARKERS - GENERAL APPLICATION
20204-8-5512	TRAFFIC SIGNAL DESIGN
	PAVEMENT MARKING & MINOR SIGNING

VENTURE SMART
A Johnson Controls and Ventia Joint Venture

Venture Smart Pty Ltd
20 Orion Road,
Jandakot, WA 6164

mainroads
WESTERN AUSTRALIA

METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION

WATERLOO CRESCENT
Telephone: (08) 9323 4111

EAST PERTH 6892
Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	23.07.2020
ENGINEER:	E. POLLARD	DATE:	23.07.2020
VERIFIED:	S. FREZZA	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022

ROBERTS ROAD (0005)
NEAR COGHLAN RD (0032)

PAVEMENT MARKING & MINOR SIGNING

LOCAL AUTHORITY: (127) CITY OF SUBIACO

MRWA DRG No: 202048-5513

MRWA ASSET No: LM01263

REV: C

SHEET: 5 of 6

TYPE: B

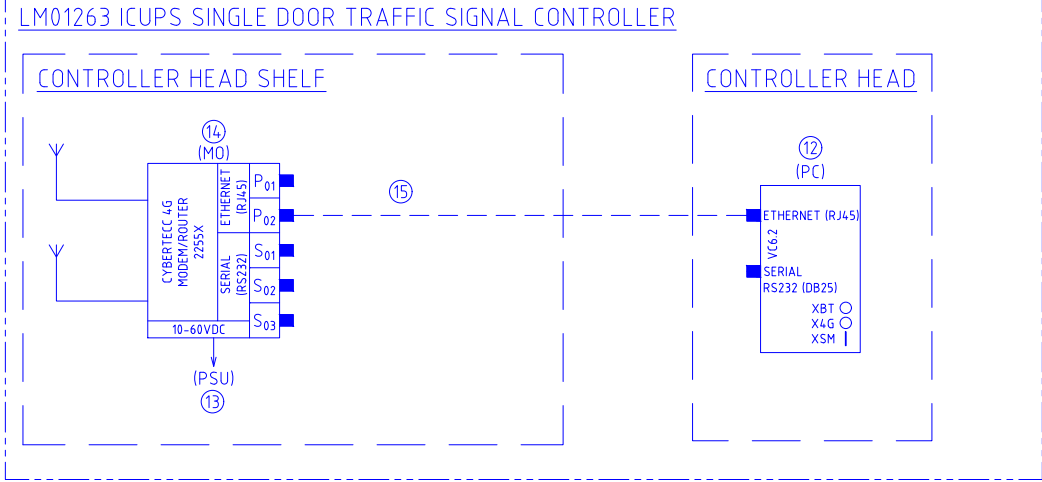
SCALE: 1:250

A

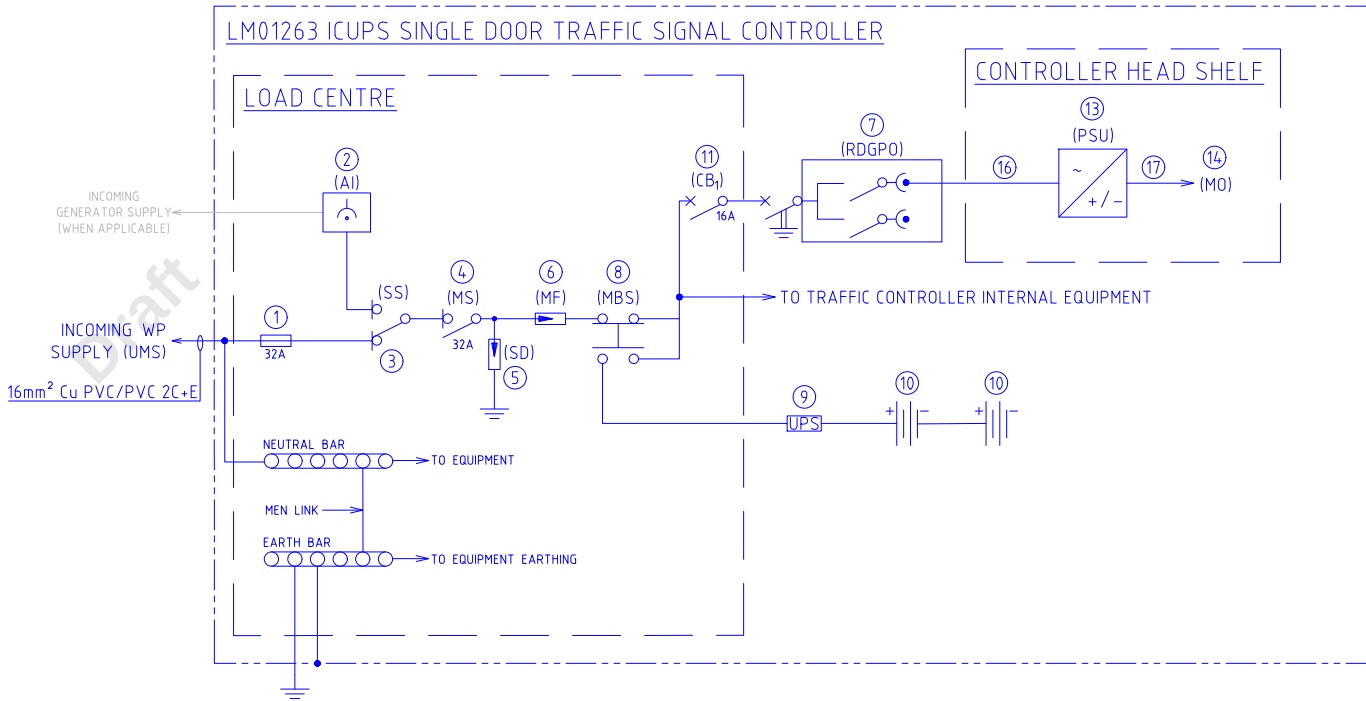
1

COMMISSIONED:

COMMUNICATIONS CONNECTIVITY DIAGRAM



POWER SINGLE LINE DIAGRAM



EQUIPMENT LIST					
ITEM	CODES	ITEM	SPECIFICATION	QTY	STATUS
1		FUSE	IPD SAFECLIP SC-32, 32A	1	PART OF CONTROLLER
2	AI	SINGLE APPLIANCE INLET	CLIPSAL IP66, 240V, 10A - 56AI310	1	PART OF CONTROLLER
3	SS	SELECTOR SWITCH	CLIPSAL IP66	1	PART OF CONTROLLER
4	MS	MAIN SWITCH	EATON-C32, 32A, TYPE C	1	PART OF CONTROLLER
5	SD	SURGE DIVERTER	WEIDMULLER 400V/40kA VP II 1 R	1	PART OF CONTROLLER
6	MF	MAIN FILTER	-	1	PART OF CONTROLLER
7	RDGPO	RCD PROTECTED DOUBLE GPO	10A 240V 30mA 2 GANG	1	PART OF CONTROLLER
8	MBS	MANUAL BYPASS SWITCH	-	1	PART OF CONTROLLER
9	UPS	UNINTERRUPTIBLE POWER SUPPLY	ALPHA FXM650-24	1	PART OF CONTROLLER
10	-	BATTERY BANK	ALPHA A12-110-GXD	2	PART OF CONTROLLER
11	CB ₁	CIRCUIT BREAKER	CHINT C16A, 16A, TYPE C	1	PART OF CONTROLLER
12	PC	PROCESSOR CARD	VC6.2 (ETH & 4G & SIM)	1	PART OF CONTROLLER
13	PSU	POWER SUPPLY UNIT	MEANWELL 24VA/1A MDR-20-24	1	INSTALL
14	MO	WIRELESS MODEM	MODEM - CYBERTEC 4G 2255X	1	INSTALL
15	-	ETHERNET CABLE	CAT6 RJ45-RJ45 UTP (1-3m)	1	INSTALL
16	-	POWER CORD	3 PIN PLUG & CORD	1	INSTALL
17	-	INTERNAL CABLE	2x1Cx2.5mm ² Cu PVC+2.5mm ² Y/G EARTH (3m)	1	INSTALL

AMENDMENTS					
No.	DATE	DESCRIPTION	DRN	ENG	APP
A	20.11.2020	ISSUED FOR 85% DESIGN REVIEW	EP	EP	RH
B	06.09.2022	ISSUED FOR 100% FINAL DESIGN	EP	EP	RH
C	13.10.2022	ISSUED FOR APPROVAL	EP	EP	SG

- GENERAL NOTES
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH MRWA SPECIFICATION 712 - TRAFFIC SIGNALS.
 - ALL NEW ASSETS ARE SHOWN IN BLUE (FOR CONSTRUCTION).

THIS DESIGN WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY FOR REVIEW & CONSTRUCTION PURPOSES. THIS DRAWING SHOULD BE PRINTED & COPIED IN COLOUR TO ENSURE THAT THE FULL INTENT OF THE DRAWING IS CONVEYED.

REFERENCES	
DRAWING No.	DESCRIPTION
0948-0204	ITS PRESENTATION LEGEND
0948-0205	ITS PRESENTATION LEGEND (DEVICE EXAMPLES)
202048-5512	TRAFFIC SIGNAL DESIGN
-	CONNECTIVITY & SINGLE LINE DIAGRAM



VENTURE SMART
A Johnson Controls and Ventia Joint Venture

Venture Smart Pty Ltd
20 Orion Road,
Jandakot, WA 6164



mainroads
WESTERN AUSTRALIA

METRO AND SOUTHERN REGIONS DIRECTORATE
METROPOLITAN REGION

WATERLOO CRESCENT EAST PERTH 6892
Telephone: (08) 9323 4111 Fax: (08) 9323 4430

DRAWN:	E. POLLARD	DATE:	17.11.2020
ENGINEER:	E. POLLARD	DATE:	17.11.2020
VERIFIED:	S. FREZZA	DATE:	12.10.2022
APPROVED:	S. GOPALAN	DATE:	13.10.2022

ROBERTS ROAD (0005)
NEAR COGHAN RD (0032)

CONNECTIVITY & SINGLE LINE DIAGRAM

LOCAL AUTHORITY: (127) CITY OF SUBIACO

MRWA DRG No:	202048-5514	REV:	C	SHEET:
MRWA ASSET No:	LM01263	TYPE:	B/C	6 of 6

COMMISSIONED:

SCALE: N.T.S.



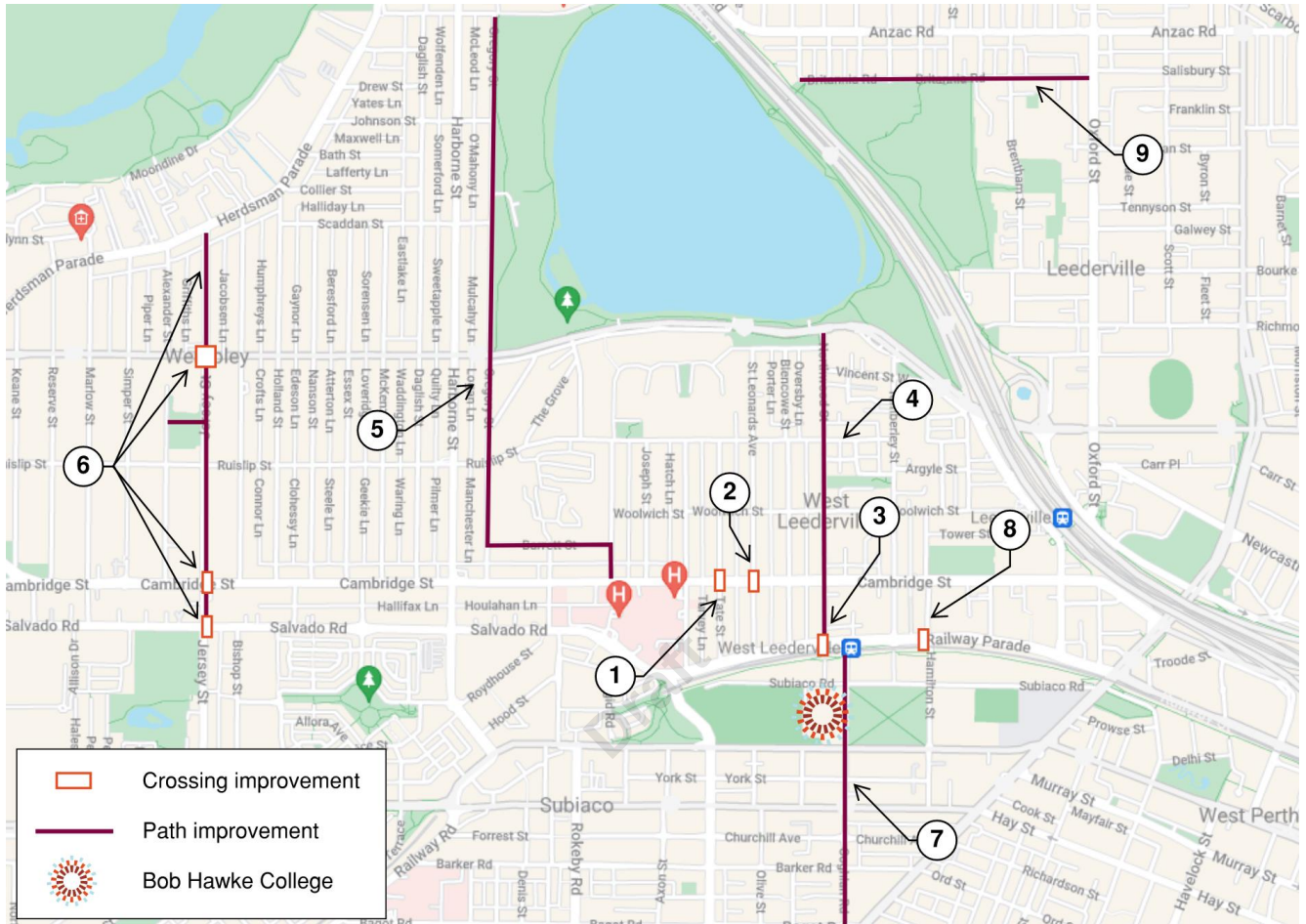
BOB HAWKE
COLLEGE

Attachment 2

Catchment area potential crossing improvements and priority

Source: Travel Plan 2020

Draft



ID	Description	Priority
1	Improve cross section and crossing facilities in Cambridge Street at the intersections of Tate Street. Provide a median break on Cambridge Street and speed warning/calming on sections with significant gradients.	High
2	Improve cross section and crossing facilities in Cambridge Street at the intersections of St Leonards Street. Provide a median break on Cambridge Street and speed warning/calming on sections with significant gradients.	High
3	Opportunity to provide a formal pedestrian crossing and construct a raised paved area adjacent to station to reduce speed with improved crossing facilities. It is recommended that embayed parking is modified to increase sight distance.	High

BOB HAWKE COLLEGE

PO Box 8150, SUBIACO
EAST WA 6008

BobHawke.Col
@education.wa.edu.au

4	Provide an off street path along Northwood Street from Lake Monger Drive to Railway Parade and Ruislip Street.	High
5	Provide a cycling facility route along Gregory Street, Barrett Street and Station Street. These will link students north west of the school to a bicycle path leading south east.	Med
6	Construct shared path on the eastern side of the street from Herdsman Parade to Cambridge Street. Keep existing footpath. Install cycle lantern at Cambridge Street and Salvado Road Provide kerb north-south crossing on the east leg of Salvado Road intersection. Install pedestrian/cycle lantern. Provide pedestrian/cycle lantern at the future Grantham Street signalised intersection. Construct path connection linking Jersey Street and Alexander Street on the south side of Wembley Community Centre.	Med
7	Install bicycle infrastructure on Coghlan Road to link southern catchment to school. Incorporate crossing facilities at key intersections (Roberts Road, Hay Street, Hamilton Street).	Med
8	Opportunity to provide a formal pedestrian crossing and construct a raised paved area adjacent to station to reduce speed with improved crossing facilities. It is recommended that embayed parking is modified to increase sight distance.	Low
9	Sign and mark appropriate bicycle facilities on Britannia Road, or raise awareness that cyclists and motorists share the roadway through signage. Install cycling way finding or directional route signage. Install bicycle lanes at the roundabout.	Low