ICS AUSTRALIA
BUILDING SERVICES GROUP

SITE SPECIFIC
CONSTRUCTION MANAGEMENT PLAN

Job Number	**J11113**
Job Details	**MindChamp Childcare Refurb**
Address	**568 Canning Hwy, Attadale**
Site Supervisor	**Paul Tognolini**
Date	**05/12/23**

Project Details

Client	Cookies and Cream
Client Rep	Joseph The
Contact Number	0430 689 900
Business Address	.....

Person Responsible for Compliance with CMP

Name	Anthony Tilbury
Contact Number	0477 420 140
After Hours Contact Number	0477 420 140

Person in Control of the Site

Name	Paul Tognolini
Contact Number	0404 567 583

Construction Works

Staged construction?	Yes No
If yes, give detail	.....
	.....
Demolition	Internal and external walls, cut openings for doors and windows, demolish redundant structures
Excavations	Shallow trenching required to install plumbing services
Purpose and Scope of Work	Upgrades and modification to existing structure to adapt the building for childcare environment
Site Operating Times	7am – 5pm Mon - Sat

Method & Sequence of Construction

Demolition of walls and external structures
Excavation for plumbing installations
Electrical rough ins
Concrete works
Structural steel works
Brick works

Window installation
Carpentry works
Plumbing rough ins
Electrical rough-ins cont.
Mechanical install
Tailing
Painting
Electrical, plumbing and mech final fit-off
Builders Clean

Construction Programme

Preliminary Site Schedule attached. Please see Index A.

General Matters	Yes / No NA	Measures to be Implemented ICS Australia & Client Requirements	Further Information
Noise associated with plant		All mobile and stationary plant will be subject to regular maintenance and inspection to ensure that they remain in good working order. • Competent and trained plant and equipment operators will be used at all times. • Consultation with all parties that could be potentially affected by noise will be initiated as identified. • Equipment will not be used or installed which causes unreasonable noise. • Works will be completed within designated times.	• ICS Australia Safety Management Plan
Noise associated with voices, workers and radios		Radios will only be used in accordance with the clients policy.	
Out of hours work		It is not anticipated that there will be any requirement to work outside the permitted work hours.	
Airborne dust control		Stockpiling of soil will be avoided where possible, any stockpiling will be temporary and expected to be of minimal quantities. In the event that dust is generated - dust suppression measures will be implemented. Dust suppression will occur by wetting the ground prior and during soil disturbance/movement. Soil stockpiles which are identified as potential airborne dust will be covered using mats of tarps.	
Removal of hazardous or dangerous materials from site		Rubbish will be removed from site by a licenced waste contractor.	
Removal of asbestos from the site			• ICS Australia asbestos removal control plan • Asbestos Management Safety Checklist
Removal of building waste		Rubbish will be removed from site by a licenced waste contractor and taken to a transfer facility for separation.	• ICS Australia Environmental Management Procedure
Delivery and storage of materials and equipment		Deliveries of construction materials and heavy vehicle movements to be undertaken during normal construction hours. The general public will be protected from construction activities including vehicle loading and off-loading.	

General Matters	Yes / No NA	Measures to be Implemented ICS Australia & Client Requirements	Further Information
Management of construction vehicles accessing and leaving site		Vehicles accessing and leaving the building sites will be complied with and accommodated in a manner that minimises disruption to the client.	
Parking arrangements		Parking and traffic controls around the building sites will be complied with and accommodated in a manner that minimises disruption to the client.	
Movement of heavy vehicles to and from the construction site		The general public will be protected from construction activities including vehicle loading and off-loading within the public domain.	
Site offices / amenities		Site Amenities and laydown will be located within the site fence.	
Public safety		The path of pedestrian and cyclists is to be free of obstruction. The general public will be protected from construction activities including vehicle loading and off-loading within the public domain.	• ICS Australia Public Protection Procedure • ICS Australia Public Protection Checklist
Fencing and barriers		All fencing and appropriate signage will be installed prior to starting work on site.	• ICS Australia Safety Management Plan
Provision of signage			• ICS Australia Safety Management Plan
Subcontractor and supplier management			• ICS Australia Contractor Procedure • ICS Australia Purchasing and Safety Procedure
Communication			• ICS Australia Safety Management Plan • ICS Australia Induction Book
Environmental management			• ICS Australia Environment Policy • ICS Australia Environmental Management Procedure

Environmental Management Plan

1 Intent

This Environmental Management Plan formalises our commitment to supporting the principles of environmental sustainability and recognises that a sustainable environment is central to our lives and our work.

ICS acknowledges that its activities have an impact on the global and local environment and that we can modify our operations to reduce our negative environmental impacts.

ICS is committed to improving its environmental performance and reducing its contribution to climate change and environmental degradation.

By integrating sustainable environmental practices in our daily activities, ICS aims to be a leader in environmentally sustainable infrastructure development and operations.

2 Scope

This policy and associated procedures apply to all staff and contractors of ICS across all sites and projects and controlled entities.

3 Definitions

- Environmental Aspects
  Element of an organisation's activities, products or services that can interact with the environment.
- Environmental Impacts
  Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.

4 Policy

ICS respects our relationship with the natural environment and its life-sustaining ecosystems and recognises the need to maintain and restore a rich biodiversity. We acknowledge the adverse impacts that human activity can impose and takes actions to prevent degradation of our natural systems, while supporting the repair and recovery of those systems.
ICS commits to the following principles and practices:

- Fostering the sustainable use of the Earth's resources by "treading lightly", recognising the approach of Australia's Indigenous people in minimising our impact on the land.
- Managing, monitoring and measuring environmental performance and establishing objectives and targets to minimise these impacts.
- Communicating our environmental performance through the annual report and other internal and external reports.
- Reducing the consumption of resources associated with operations (eg energy, water, paper).
- Minimising the production of greenhouse gases, particularly those associated with energy consumption, the vehicle fleet and air travel.

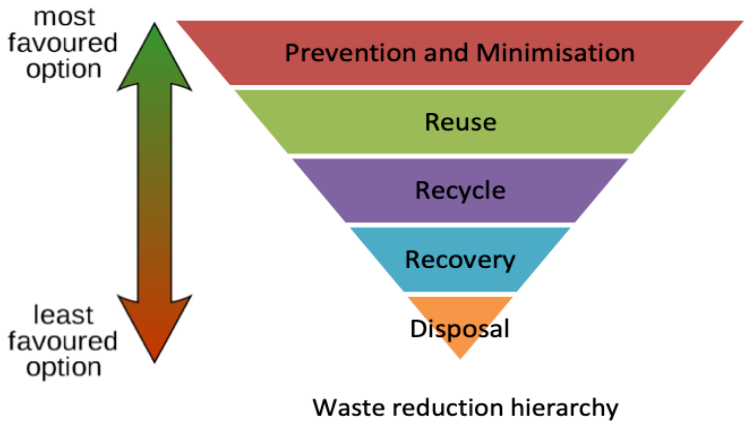
- Minimising waste production and maximising the amount reused and recycled.
- Considering environmental aspects in the procurement of products and services and endeavouring to ensure suppliers meet high standards of environmental performance.
- Ensuring that all new capital works programs incorporate comprehensive environmental sustainability principles.
- Committing to the principles of pollution prevention and continual improvement.
- Recognising that all staff have a responsibility to assist ICS to meet the commitments in this policy.
- Empowering staff to minimise our environmental impacts through raising staff awareness and encouraging participation in environmental management practices.
- Working closely with our employees, contractors, suppliers, clients, and the community to develop and implement environmental initiatives.
- Providing leadership to the community and industry by demonstrating best practice methods of delivering sustainable initiatives.
- Complying with relevant Commonwealth and State Government environmental policy, practices, regulations and legislation.
- Communicating this policy to all employees, contractors and other stakeholders as well as making this policy available to the general public.

5 Waste Reduction Management Plan (WRMP)

The Waste Reduction Management Plan (WRMP) aims to reduce waste generation at all ICS sites using the waste reduction hierarchy as the basis. This hierarchy supports State and Federal Government waste management strategies.

5.1 Waste Reduction Hierarchy

- Prevention and minimisation of waste production at the source.
- Reuse of resources where possible.
- Recycling of generated waste.
- Energy recovery from non-recyclable wastes.
- Disposal to landfill.



Waste reduction hierarchy

The WRMP aims to ensure all waste generated at ICS sites is properly managed and disposed of through:

- Providing training and education to staff and contractors on correct disposal and management of various wastes.

- Providing adequate resources and infrastructure for students and contractors to reuse and recycle materials at the end of their life.
- Providing easy to access waste management information and procedures via newsletters, LinkedIn and other communications avenues.
- Encouraging best practice for waste reduction and continually identify areas for improvement in waste management at ICS sites.
- Support and alignment with State and Federal Government waste management strategies.
- Each staff member must take responsibility to reduce their waste production and maximise waste recovery through correct reuse or recycling.

WRMP Responsibilities

Project Managers	• Promote and encourage opportunities to reduce, re-use and recycle wastes where practicable, • Ensure all personnel are aware of Environmental Management Plan and legislative requirements for waste management
Site Supervisors	• Ensure adequate waste storage facilities are available & clearly identifiable within Sites • Investigate and implement opportunities to reduce, re-use and recycle wastes

Applicable Regulatory Requirements

ICS will ensure that all sites meet the requirements of applicable waste management legislation which may include at minimum:

- Environmental Protection Act 1986 (WA)
- Environmental Protection Regulations 1987 (WA)
- Environmental Protection (Controlled Waste) Regs 2004

6 Sustainability Principles

Our Sustainability Principles serve as a starting point for our construction company to create a roadmap towards a more sustainable future. It should be supported by concrete sustainability goals, strategies, and action plans to turn this vision into a reality. Additionally, ongoing communication and engagement with stakeholders will be essential to demonstrate our commitment to sustainability and track progress over time. The following are principles through which ICS shows its commitment to the company environmental sustainability vision:

Environmental Stewardship

We will put all efforts to minimise our environmental footprint by implementing green building practices, reducing energy and resource consumption, and minimize waste generation. This will be done using renewable and environment friendly materials and implementation of sustainable construction techniques reducing impact on use of natural resources.

Social Responsibility

At ICS we are dedicated to the well-being of our employees, subcontractors and all project stakeholders affected by our construction activities. We promise to provide a safe and inclusive work environment that promotes diversity, equity and inclusion. We will engage and support local communities, striving to leave a positive social legacy through our projects by job creation and community development.

Economic Viability

We make all efforts to deliver projects that are economically viable considering life-cycle costs, energy efficiency and long-term sustainability. We promise to explore cost-effective and sustainable construction solutions promoting economic growth within built environment.

Collaboration and Innovation

We will collaborate with partners, clients and project stakeholders to identify and implement sustainable solutions through adaptation of practices, innovating and emerging technologies which reduce our environmental impact and enhance our sustainability efforts.

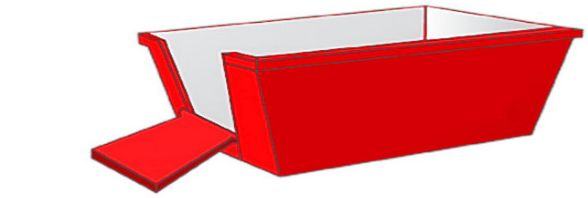
Accountability

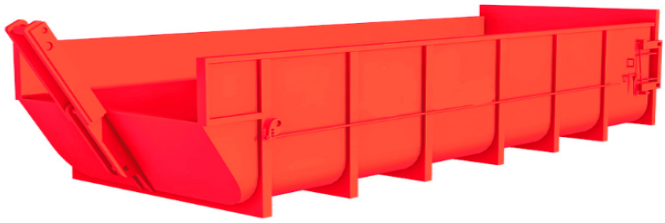
We promise to maintain transparency in our sustainability practises by regular reporting our progress toward our sustainability goals. We endeavour to make continues improvements to minimize any adverse effects construction activities have on environment and surrounding communities.

Waste Containment Plan

On-site waste containment is managed through the use of skip bins for general waste and site compounds for recycled items. These measures are essential to prevent waste from moving off-site and causing environmental or public health concerns.

Example of skip bin:





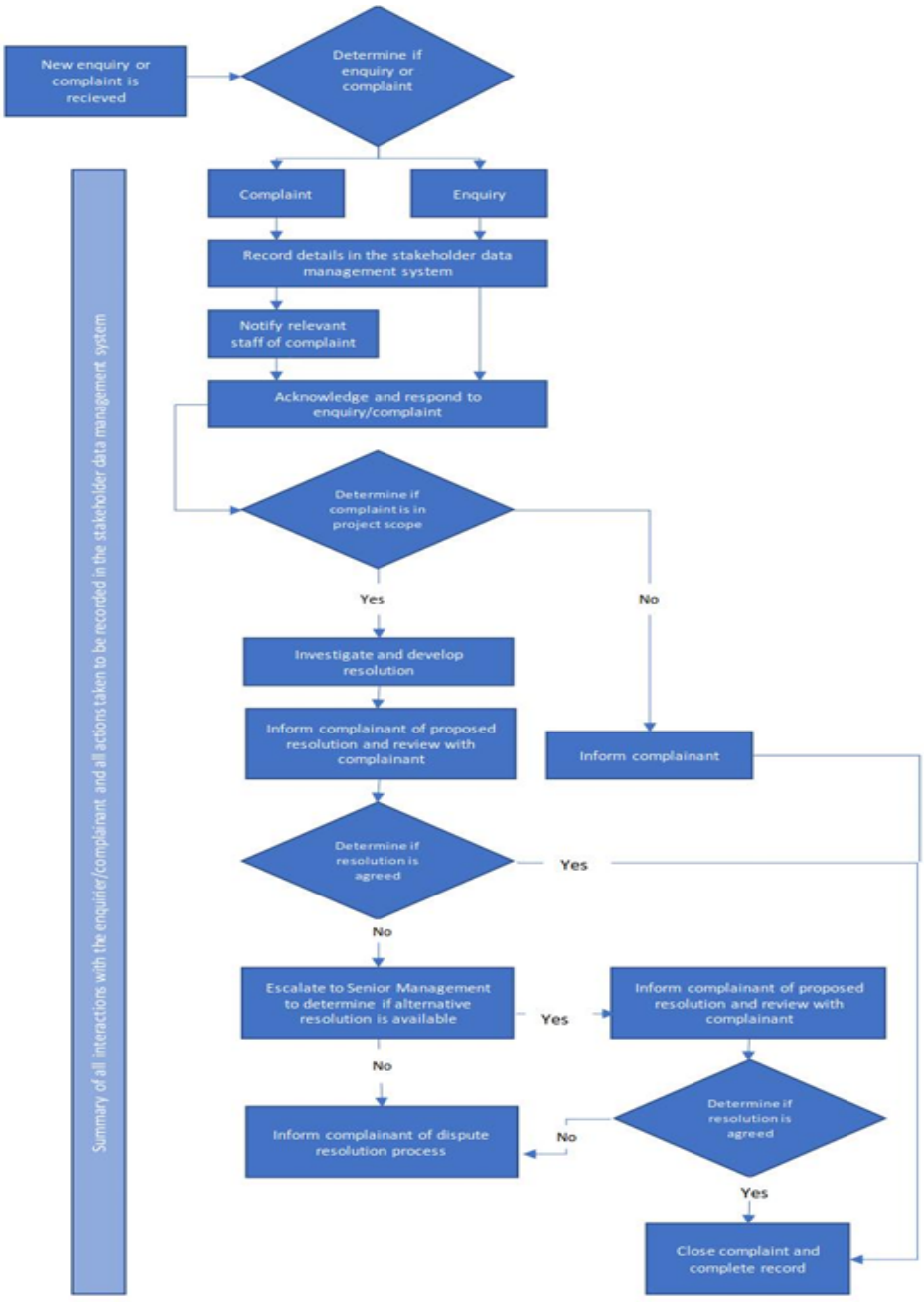
The frequency of waste removal varies based on the type of waste and the site's needs. Typically, waste is removed on a regular schedule, which can range from daily to weekly pickups. However, pickups can also be arranged on request to accommodate fluctuations in waste generation or specific project requirements.

If there are issues with waste accumulation or removal frequency, there is often scope to increase the frequency of rubbish removal. This can be done by coordinating with waste management contractors to adjust the pickup schedule based on the volume of waste generated or any emerging concerns.

Complaints Management Plan

1. COMPLAINTS MANAGEMENT PROCEDURE

Please see a flow diagram which outlines how enquiries and complaints will be processed.



2. COMPLAINTS ENABLEMENT AND MANAGEMENT

It is understood that the City of Melville will have this plan as part of the CMP which is made available on the below link:

https://www.melvillecity.com.au/planning-and-building/for-developers-and-builders/construction-management-plans

Site contact number (available 24 hours a day): Anthony Tilbury 0477 420 140
Email address: anthony.tibury@icsaust.com.au
Postal address: Complaints Resolution ICS Australia 6/14 Shields Cres, Booragoon WA 6154
Complaints are able to be made through the range of methods as mentioned above. This process will ensure complaints will be acknowledged promptly on receipt and prioritized in relation to the level of identified urgency. The more information that can be received when a complaint is lodged, the easier it is to try and find a resolution. Where possible, the following information should be recorded with each complaint:

a. Complainant's contact information
b. A description of the issue.
c. Time and date of incident
d. Weather conditions that may have caused impact
e. The outcome sought by the complainant
f. Any other key relevant information

2.1 COMPLAINT PROCESSING

1. When a complaint is received the complaint will be recorded in the Complaints Register (as attached in Appendix B)

2. Relevant team members shall be notified of the details of the complaint as it relates to the Project

3. A representative from ICS Australia shall acknowledge and provide an initial response of receipt to the complainant. Initial response timescales for complaints shall be:

- Where complaints are received in person, an acknowledgement and initial response will be provided immediately if possible, or if circumstances do not allow, within 24 hours (or next working day).
- Complaints which are received by telephone or email an acknowledgement and initial response will be provided within 24 hours (or next working day) of the complaint being received.
- Where complaints are received by post, and no email or phone contact is provided, a written response will be made within three working days.

The initial response to a complainant is to:

- Acknowledge the enquiry / complaint has been received;
- Ask for further information, if thought necessary to help resolve it and;
- Explain the process of assessment or investigation and commit to provide a proposed resolution or an update within five working days. The initial response does not necessarily need to include a resolution to the complaint if it is not available at the time, however complaints should be handled in a manner intended to lead to an effective resolution as quickly as possible. Conflicting interests will not interfere with the management and resolution of complaints.

2.2 COMPLAINT RESOLUTION

Once the complaint has been assessed, any relevant Project staff will review the activity and propose necessary actions to rectify the issue (if practicable). Following the implementation of any required action to resolve the issue, the complainant will be contacted and have the details of the findings of the investigation and proposed resolution clearly explained to them:

a. What actions were undertaken in response;
b. The outcome of the investigation;
c. Any remedy or resolutions that have been offered, and the rationale; and
d. Information about other remedies that may be available to the stakeholder.

This will be done verbally initially (if possible) and followed up in writing (email or letter). If the complainant accepts the proposed resolution, the complaint will be closed out in the Enquiries and Complaints Register and the complainant will again be contacted in writing (email or letter) notifying them. If no response is received from the complainant within ten working days, the complaint will be considered closed.

2.3 ESCALATION PROCESS

If a satisfactory resolution cannot be agreed upon, an internal escalation process may be undertaken, including:

- Raise unresolved resolutions / mitigations with the senior management.
- Determine if a reasonably practical alternative resolution or mitigation can be offered.
- Discuss alternative resolution or mitigation with complainant.

Parking Management Plan

This Parking Management Plan is in preparation for the subject site to become a working construction site. This PMP is to be read in conjunction with Stantec's Traffic Management Plan.

1. SUBJECT SITE

2. CAR PARKING PROVISIONS

The current site currently accommodates 25 parking bays as per the attached Site Plan. There are expected to be up to 8 cars required to be parked at one time. The property has a fully functioning toilet and shower facilities located to the rear in the Annex which is the smaller building to the east of the property. The Annex will also be the site office and store area for fragile items.

There are no designated public parking areas in the vicinity of the site, however kerbside parking is permitted on the eastern side of Lentona Road. Parking is prohibited on Canning Highway.
The site has fully provided for all required parking spaces within the site and overspill is not expected.

3. ALTERNATIVE MODES OF TRASPORTATION

The following table outlines the alternative transport options available to users of this development.

Public Transport	**Type and Level of Service**
Bus	Multiple bus route services are available on Canning Highway providing access to the Canning Bridge station, with bus stops 150m from the subject site.
Pedestrians	
Paths	A footpath is located on the northern side of Canning Highway along the site frontage. A shared path is present on the southern side of Canning Highway although no crossing facilities are provided near the subject site. These facilities are in line with the requirements for a footpath on a Distributor Road and adequate in width to accommodate two pushchairs. Internally the pedestrians will move within the parking aisle to access the path that aligns the building.
On-site Facilities	The wide parking aisle with good visibility to parking movements can be used to access the entrance of the building from the parking area by pedestrians.
Cycling	
Paths	There are no on-road cycle paths in the vicinity of the site. A wide shared path is present on the southern side of Canning Highway to accommodate cycle movements.
Facilities	A Principal Shared Path, is provided along the river edge, accessible to the east of the subject site and via Lentona Road. This path continues south down North Lake Road.
Secure Bicycle Parking	Bicycle racks are provided near the building
Lockers	None indicated on plans, however, are proposed.
Shower/Change Room	Shower provided in the toilet block.

4. PUBLIC TRANSPORTATION

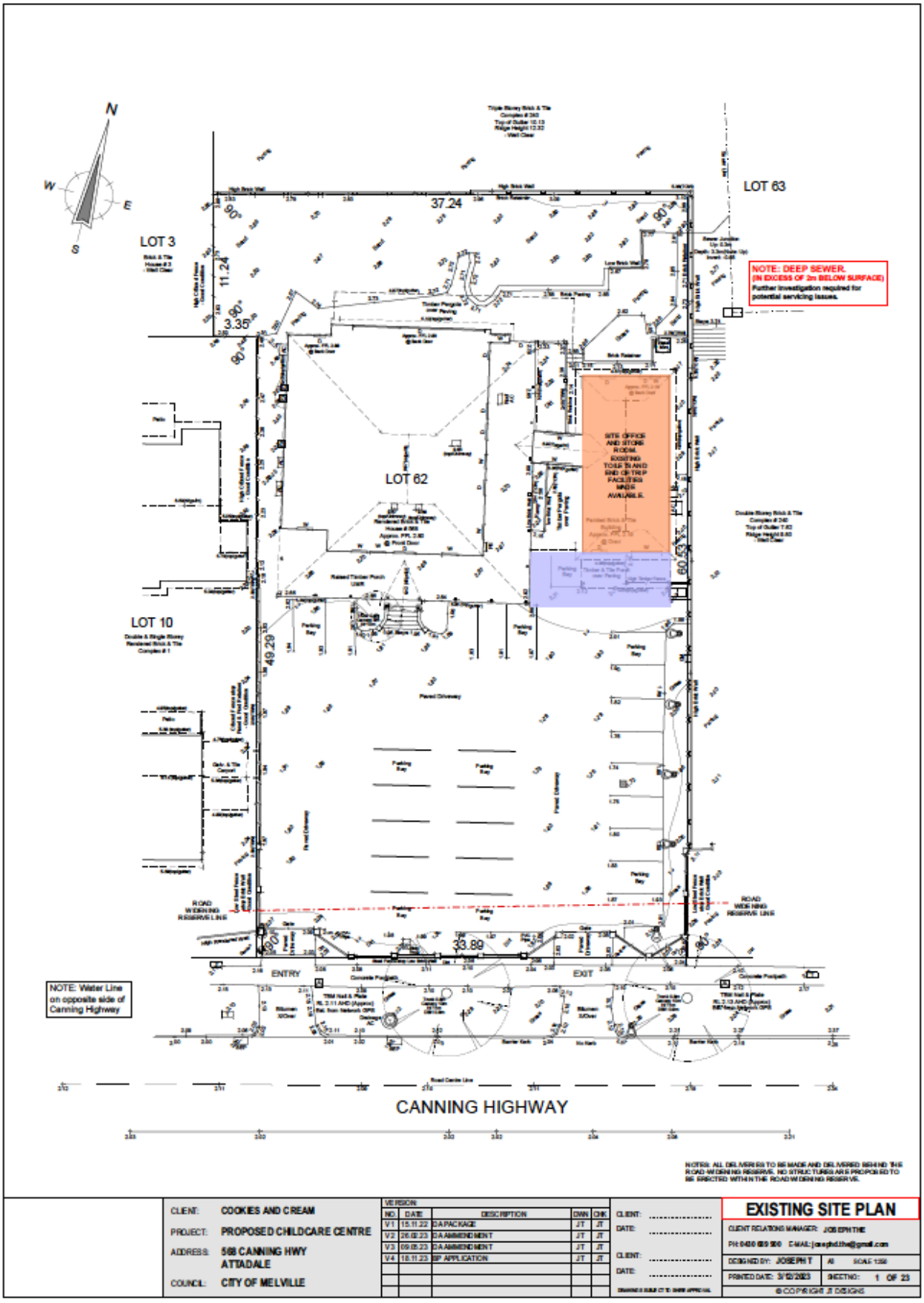
The development has access to public transport services with bus stops located on Canning Highway approximately 150m walking distance from the site. The bus stops provide access to bus service as noted in the table below. The nearest train station is Canning Bridge Station providing access to services on the Mandurah Line.

Service	Route	Route Description	Frequency On/Off Peak
Bus	100	Cannington Station to Canning Bridge Station	10 – 15 minutes
Bus	101	Curtin University to Canning Bridge Station	10 minutes
Bus	111	Perth to Fremantle, via Kwinana Freeway and Canning Highway	10 – 15 minutes in peak periods
Bus	114/115	Booragoon Bus Station to Elizabeth Quay Bus Station	30 minutes to an hour
Bus	148	Applecross To Fremantle	30 minutes during school peak hours
Bus	158	Perth to Fremantle, via Bicton and Attadale	Hourly, 30 minutes in peak
Bus	510	Bull Creek Station to Booragoon Bus Station, via Brentwood	Hourly, 30 minutes in peak
Bus	910	High frequency Perth to Fremantle	10 – 15 minutes
Train	Mandurah	Perth to Mandurah	5 – 15 minutes

5. EXISTING PEDESTRIAN FACILITIES ON SURROUNDING ROADS

There is currently a 2.2m wide footpath on the northern side of Canning Highway and a 3.0m wide shared path on the southern side –with the nearest crossing facility on Canning Highway 100m west of the subject site as at North Lake Road to the east. The paths are continuous past the front of the site and through the two crossovers, to ensure that pedestrians have priority as required in the City of Melville Path Guidelines and Specifications. The existing paths at 2.2m and 3.0m wide are sufficient and in accordance with the minimum requirement for a footpath adjacent to a Distributor as noted in the Guidelines.

6. SITE PLAN


N
W
E
S
LOT 3
LOT 63
LOT 62
LOT 10
37.24
11.24
3.35
49.29
60.63
33.89
NOTE: DEEP SEWER.
(IN EXCESS OF 2m BELOW SURFACE)
Further investigation required for potential servicing issues.
SITE OFFICE AND STORE ROOM. EXISTING TOILETS AND END OF TRIP FACILITIES UNDER AVAILABLE.
ROAD WIDENING RESERVE LINE
ROAD WIDENING RESERVE LINE
ENTRY
EXIT
NOTE: Water Line on opposite side of Canning Highway
CANNING HIGHWAY
NOTES: ALL DELIVERIES TO BE MADE AND DELIVERED BEHIND THE ROAD WIDENING RESERVE. NO STRUCTURES ARE PROPOSED TO BE ERECTED WITHIN THE ROAD WIDENING RESERVE.
CLIENT: COOKIES AND CREAM
PROJECT: PROPOSED CHILDCARE CENTRE
ADDRESS: 568 CANNING HWY ATTADALE
COUNCIL: CITY OF MELVILLE
VERSION
NO. DATE DESCRIPTION DWN CHK
V1 15.11.22 DA PACKAGE JT JT
V2 26.02.23 DA AMMENDMENT JT JT
V3 09.05.23 DA AMMENDMENT JT JT
V4 18.11.23 RP APPLICATION JT JT
CLIENT: .....
DATE: .....
CLIENT: .....
DATE: .....
EXISTING SITE PLAN
CLIENT RELATIONS MANAGER: JOSEPH THE
PH: 0400 689 500 EMAIL: joseph.the@gmail.com
DESIGNED BY: JOSEPH T
A0 SCALE 1:250
PRINTED DATE: 31/10/2023
SHEETNO: 1 OF 23
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ICS AUSTRALIA
BUILDING SERVICES GROUP

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Myaree Business Centre WA 6960
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E: admin@iscaust.com.au

DILAPIDATION CONDITION REPORT

Prepared For:	Cookies n Cream – MindChamps Childcare Centre
Project:	MindChamps Childcare Refurb
Property Address:	568 Canning Hwy, Attadale
Inspection Date:	16/11/2023
Inspection Time:	10:30am
Prepared by:	Peter Widzynski
Position:	Project Manager

AREA OF WORKS & SURROUNDING AREAS

This Dilapidation Condition Report details the condition of the premises and surrounding areas prior to any works undertaken by ICS Australia.

It is based on a visual inspection only and the photographs contained with the report were taken on the inspection date as detailed on the cover page.

The photos shown are those which reflect areas of concern however all photos recorded on and prior to the date of this document can and will be used as evidence to any pre-existing building issue, or those which may arise during and or after completion of contracted works.

Photographs have not been edited or doctored other than to adjust in size.

If you have any queries with this report or require further information, please do not hesitate to contact the person who carried out the inspection.

DILAPITATION SCHEDULE

INSPECTION LOCATION	
Property Front 568 Canning Hwy Third Av. Access Lane	

Key Inspection Item

Property fence, footpaths, driveways, verge.

Description

Property fence generally in good condition. Brickwork has previous fence holes which have not been patched. Several spots have small pieces of brick broken off around drilled holes. There are visible paint splash marks on the brickwork from fence panels being painted white. Small graffiti marks have also been sighted on the brickwork. There is a single crack within fence brickwork (photo 7). The property fence is slightly leaning west (photos 9 and 10) in Third Av. Laneway entry.

There is a corner of the slab broken off where driveway meets property paving (photo 13). The crack is 2-3mm wide and will need remediation works. Asphalt portion of the driveways in fair condition. There is an obvious delineation between the driveways and the Canning Hwy. Driveways have damaged/missing curb at the entries (photos 13 and 17).

Concrete footpath along the property line is in good condition. There are a couple panels which have been raised (photos 14 and 18). Third Av. entry has obvious bore water stains, it is however in a very good condition.

Photo 1	Photo 2
	
Photo 3	Photo 4
	

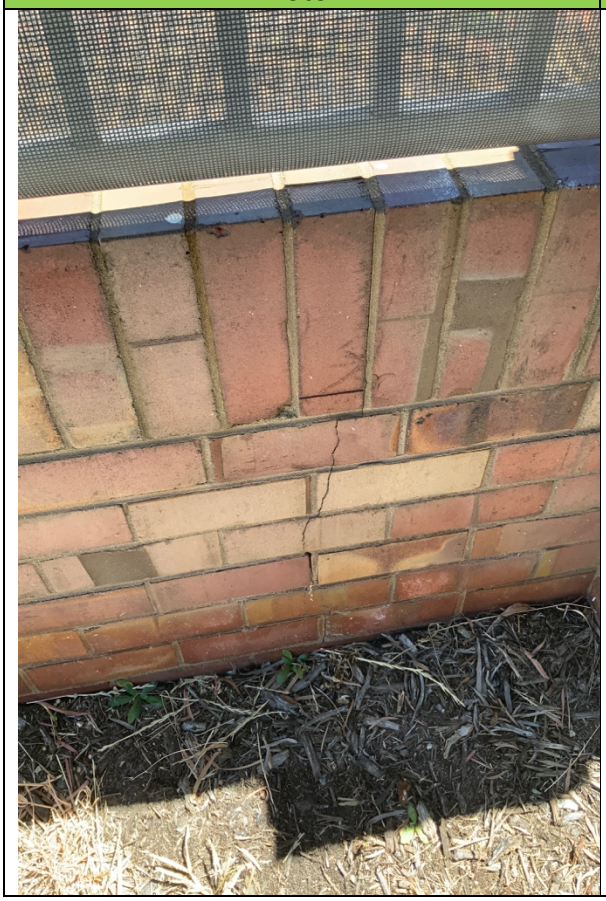
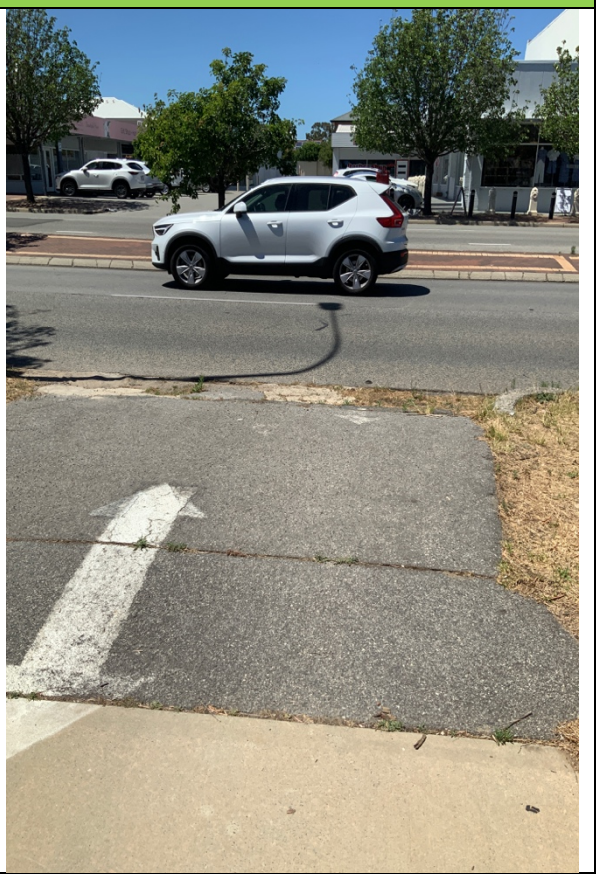
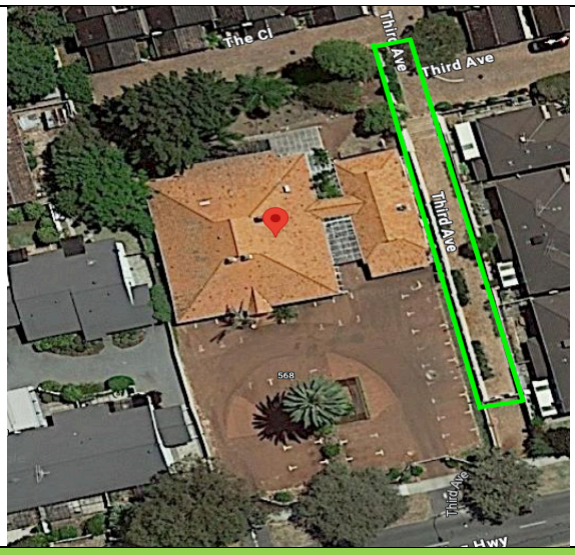
Photo 5	Photo 6
	
Photo 7	Photo 8
	

Photo 9	Photo 10
	
Photo 11	Photo 12
	

Photo 13	Photo 14
	

Photo 15	Photo 16
	

Photo 17	Photo 18
	

INSPECTION LOCATION	
Third Avenue	

Key Inspection Item

Brick fence, footpaths

Description

Fence in very good condition.

Photo 19	Photo 20
	
Photo 21	**Photo 22**

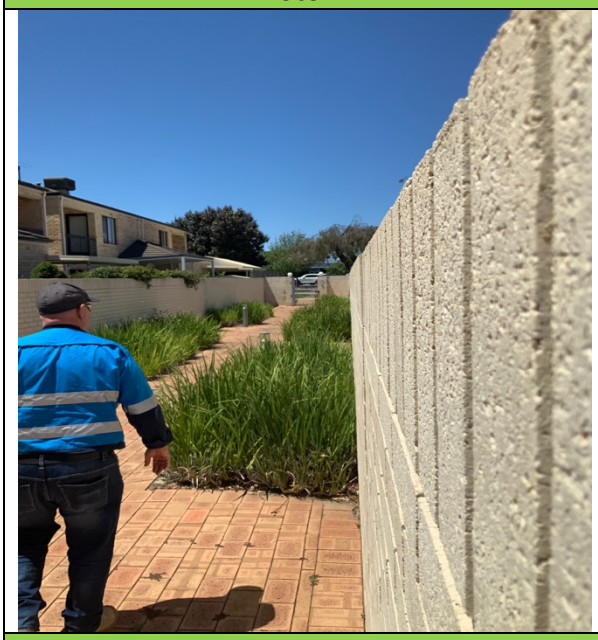
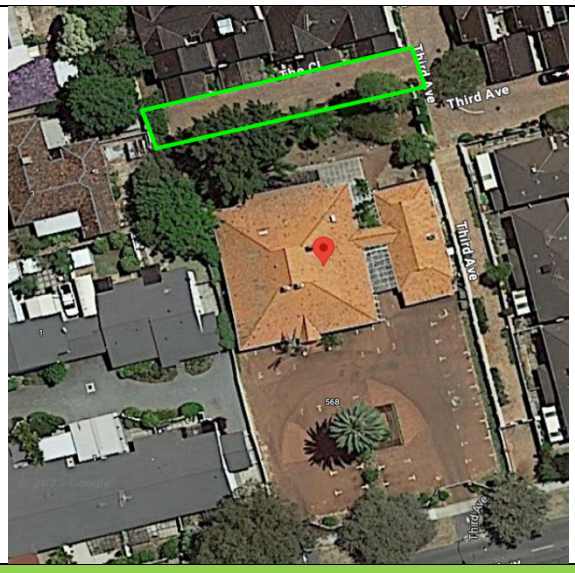



Photo 23	
	

INSPECTION LOCATION	
The Cl	

Key Inspection Item

Boundary fence, driveways

Description

Driveway condition is very good. The boundary fence is generally in a very good condition. There is a visible separation of fence along the expansion joint (photos 28, 30 and 31). The retaining wall has a visible crack (photo 31). This has probably caused a small fracture to appear on the other side of the fence (The Cl side – photo 29). There is a missing brick on one of the fencing piers (photo 33). There also appears to be a brick deterioration in a couple of spots in the retaining wall (photos 34 and 35).

Photo 24	Photo 25
	

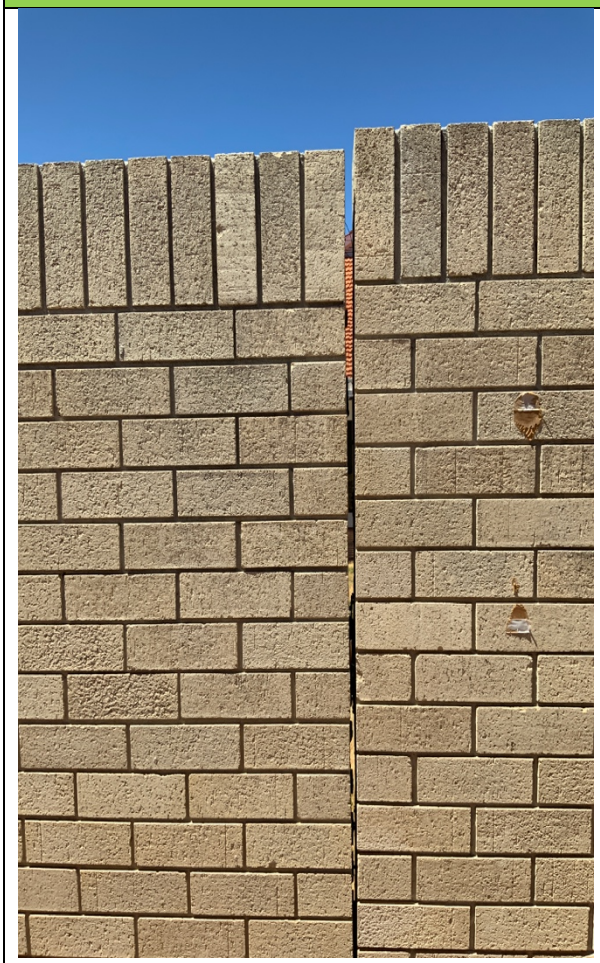
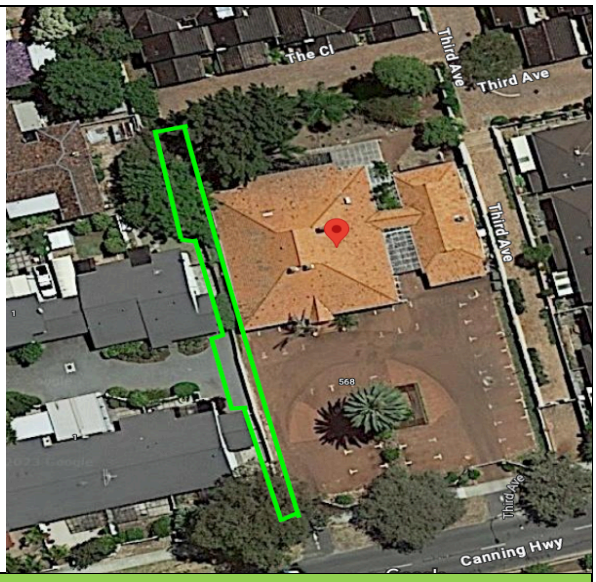
Photo 26	Photo 27
	
Photo 28	Photo 29
	

Photo 30	Photo 31
	

Photo 32	Photo 33
	

Photo 34	Photo 35
	

INSPECTION LOCATION	
Along property western boundary fence	

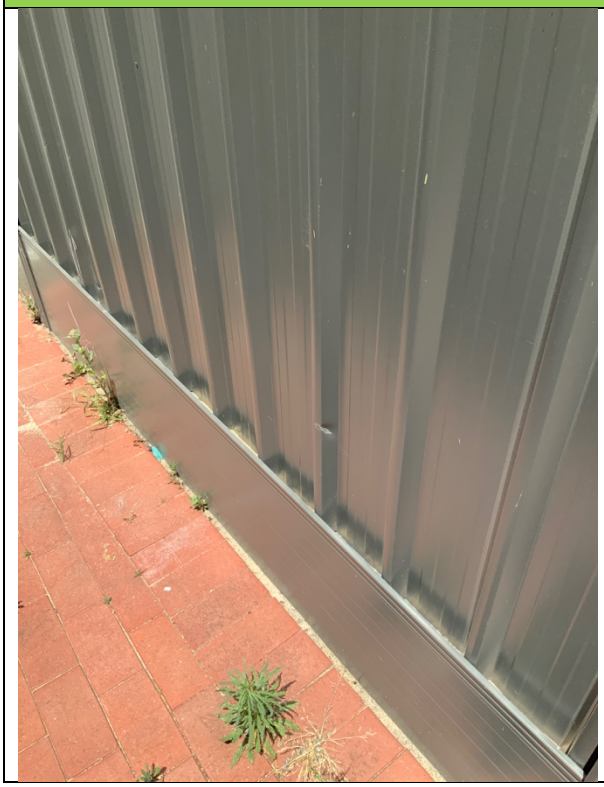
Key Inspection Item

Fence, driveways

Description

Access to adjoining properties limited during inspection time. Sighted driveway and fence in very good condition. There are several dents in fence sheeting. It could not be determined if these were done from within or outside project property (photos 40, 41 and 42). It appears that the side fencing has a small pull away from front fence (photo 39).

Photo 36	Photo 37
	
Photo 38	Photo 39
	
Photo 40	Photo 41
	

Photo 42	
	

END OF DOCUMENT

WORKS ON ROADS
TRAFFIC MANAGEMENT PLAN

WORKSITE VEHICLE INGRESS & EGRESS FOR SAFE ENTRY & EXIT OF SITE
568 CANNING HIGHWAY, ATTADALE

ICS Construction | Fitout

HIGHWAYS TRAFFIC
JANUARY- MAY 2024

I MIKAYLA SMITH (AWTM Cert No. 22-11374-01) declare that I have designed this Traffic Management Plan following a site inspection on 07/12/2023. The Traffic Management Plan prepared, **with no variations,** is in accordance with the Main Roads Code of Practice, AGTTM and AS 1742.3

Signature: Date: 08/12/2023

	Name / Company	Accreditation Details	Date	Signed
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TMP Reviewed by:	Nicole Murphy Highways Traffic	22-11533-03	08/12/2023	
RTM reviewed and endorsed by:				
Compliance Audit to be undertaken by:				
Road Authority Review by:				
Road Authority Authorisation	Road authority authorisation of the implementation of traffic signs and devices is given for Traffic Management Plan No. 592-01 Signed Authorised Officer Date (Print Name) Position			

TMP No: 592-01	Rev. No: 1	Date: 08/12/2023

Revision Register

Revision Number	Revision Date	Comments	Section / Page No.	Revised By
1	08/12/2023	TMP preparation	Whole Document	Mikayla Smith

Contents

1. Introduction 6
   1.1 Purpose and Scope 6
   1.2 Objective and Strategies 6
2. Project overview 7
   2.1 Location 7
   2.2 Project Details, Site Assessment and Site Constraint /Impacts 7
   2.3 Existing Traffic and Road Environment 8
   2.4 Overview of Proposed TTM 8
   2.5 Project Representatives 8
3. Risk management 10
   3.1 Risk Classification Tables 11
   3.2 Risk Register 14
4. Traffic Management Planning and Assessment 18
   4.1 Traffic Assessment and Analysis 18
      4.1.1 Traffic and Speed Data 18
      4.1.2 Traffic Flow Analysis 18
      4.1.3 Temporary Speed Zones 19
      4.1.4 Existing Traffic signals 19
      4.1.5 Impact to adjoining network 19
      4.1.6 End of Queue Treatment 19
      4.1.7 Portable Traffic Control Devices (PTCDs) 19
      4.1.8 Speed Management 19
      4.1.9 Excavations or Above Ground Hazards 19
   4.2 Road Users 19
      4.2.1 Pedestrians 19
      4.2.2 Cyclists 19
      4.2.3 Public Transport 19
      4.2.4 Heavy and Oversized Vehicles 19
      4.2.5 Existing Parking Facilities 19
      4.2.6 Access to Adjoining Properties / Business 20
      4.2.7 Rail Crossings 20
      4.2.8 School Crossings 20
      4.2.9 Special Events and Other Works 20
      4.2.10 Emergency Vehicle Access 20
   4.3 Night Work Provisions 20
   4.4 Road Safety Barriers 20
   4.5 Shadow Vehicles 20

4.6 Consultation and Communication / Notification 20
4.6.1 Other Agencies 20
4.6.2 Public 20
5. Site Assessment 20
5.1 Provision to Address Environmental Conditions 20
5.1.1 Adverse Weather 20
5.1.2 Sun Glare 21
5.1.3 Fog, Dust and Smoke 21
5.1.4 Road Geometry, Terrain, Vegetation and Structures 21
5.2 Existing Traffic and Adverting Signs 21
6. Safety Plan 22
6.1 Work Health and Safety 22
6.2 Roles and Responsibilities 22
6.2.1 Responsibilities 22
6.2.2 Roles 22
6.3 Personal Protective Equipment (PPE) 23
6.4 Plant and Equipment 23
6.5 Trip Hazards 23
7. Implementation 24
7.1 Traffic Guidance Schemes 24
7.2 Sequence and Staging 24
7.3 Traffic Control Devices 24
7.3.1 Sign Requirements 24
7.3.2 Tolerances on positioning of signs and devices 25
7.3.3 Flashing Arrow Signs 25
7.3.4 Delineation and Edge Clearance 25
7.4 Site Access for Work Vehicles 25
7.5 Communicating TMP Requirements 26
8. Emergency Arrangements and Contingencies 26
8.1 Traffic Incident Procedures 26
8.1.1 Serious Injury or Fatality 26
8.1.2 Minor Incident or Vehicle Break Down within Site 26
8.2 Emergency Services 27
8.3 Dangerous Goods 27
8.4 Damage to Services 27
8.5 Failure of Services 27
8.5.1 Failure of Traffic Signals 27

8.5.2 Failure of Street Lighting 27
8.5.3 Failure of Power 27
8.6 Emergency Contacts 28
9. Monitoring and measurement 28
9.1 Daily Inspections 28
9.1.1 Before works start 28
9.1.2 During work hours 29
9.1.3 Closing down each day 29
9.1.4 After hours 29
9.2 TMP Audits and Inspections 29
9.3 Records 29
9.4 Public Feedback 29
10. Management Review and Approvals 29
10.1 TMP Review and Improvement 29
10.2 Variations 29
10.3 Approvals, Authorisations and Permits 30
Appendix A – Notification of Roadworks 31
Appendix B – Variation to Standards 32
Appendix C – Record Forms 33
Appendix D – Traffic Analysis and Volume Counts 35
Appendix E – Roadway Access Authorisation Permit 37
Appendix F – Traffic Guidance Schemes 38

1. INTRODUCTION

1.1 Purpose and Scope

This Traffic Management Plan (TMP) outlines the traffic control and traffic management procedures to be implemented by Highways Traffic to manage potential hazards associated with the traffic environment during the project.

The project involves the ingress & egress of work vehicles to allow safe entry in and out of site & the drop of materials, plant & machinery from 568 Canning Highway, Attadale.

1.2 Objective and Strategies

The objectives of the Traffic Management Plan is to ensure:

- The safety of the road workers.
- All road users, including vulnerable road users, are safely guided around, through or past the work site.
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works.
- Impacts on users of the road reserve and adjacent properties and facilities are minimised.

In an effort to meet these objectives the Traffic Management Plan will incorporate the following strategies:

- Providing a sufficient number of traffic lanes to accommodate vehicle volumes.
- Ensuring delays are minimised.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport.
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams shall be in accordance with the requirements of safe working practices.

2. PROJECT OVERVIEW

2.1 Location

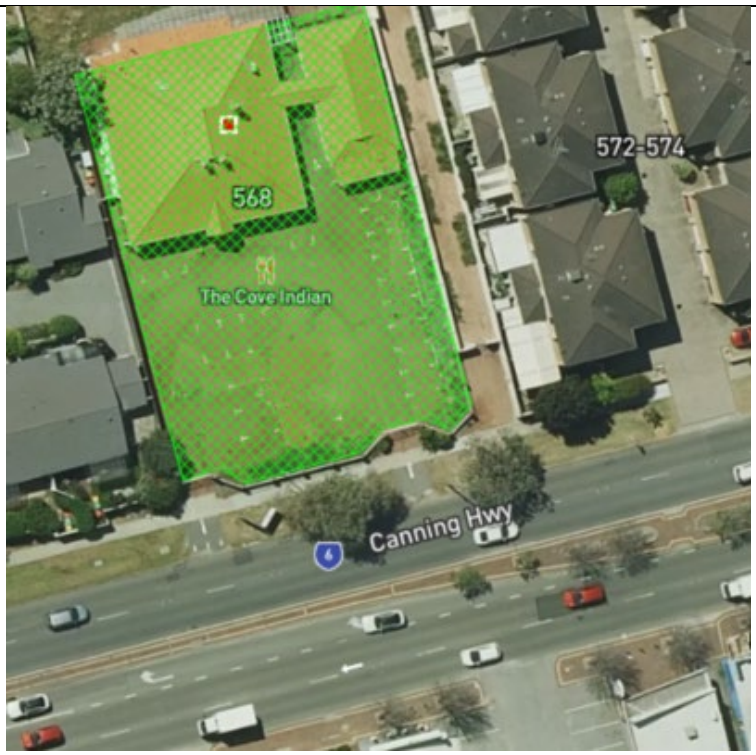


Figure 1 Site Location

2.2 Project Details, Site Assessment and Site Constraint /Impacts

ITEM	DESCRIPTION
Project	Work vehicle ingress & egress for safe entry & exit of site
Location	592 Canning Highway, Attadale
Road Classification, Existing Speed Limit	Primary Distributor 60km/h
Road Authority	MRWA
Local Government	City of Melville
Principal	Cookies & Cream WA
Prime Contractor	ICS Australia
Sub-Contractor	N/A
Scope of Works	The project involves the ingress & egress of work vehicles to allow safe entry in and out of site & the drop of materials, plant & machinery from 568 Canning Highway, Attadale.
Staging of Work / Temporary Traffic Management	1 stage of works consisting of: • Implementation of traffic management • Commencement of vehicle ingress & ingress • Completion of vehicle ingress & egress • Removal of traffic management signage Repeat as required.
Project Date	Monday 8th January – Monday 6th May 2024
Hours / Days of Work	Monday – Saturday 07:00-17:00
Duration of Work	17 weeks
Other Constraints	At the time of production of this TMP no other constraints could be identified.

ITEM	DESCRIPTION
Concurrent/adjacent Works or Projects	At the time of production of this TMP no conflicting works or projects could be identified.

2.3 Existing Traffic and Road Environment

ITEM	DESCRIPTION
Traffic Volume and Composition	Canning Highway West of North Lake Road– site 0645 Total Volume 39,902VPD both directions 6.7% HV EB AM peak 07:15 – 1833VPH – PM peak 15:15 – 1454VPH.
Existing road configuration	Dual lane both directions, divided.
Existing pedestrian / cyclist facilities	Pedestrian footpaths provided; no cycle lanes provided.

2.4 Overview of Proposed TTM

ITEM	DESCRIPTION
Temporary Traffic Management Descriptions	Advance warning signage for trucks entering & exiting site for the delivery of materials, plant & machinery and pedestrian watch your step signage therefore, these works are not considered Complex Traffic Management arrangement as defined by the MRWA CoP Cl 4.2.3.
Speed zone dates and times	N/A
Lane Closures dates and times	N/A
Road Closures dates and times	N/A
Signal modifications description	N/A
Proposed lane widths	Existing lane widths shall be retained.
Road Safety Barrier	Not applicable as the works do not include any excavations.

2.5 Project Representatives

POSITION	NAME	CONTACT DETAILS
Road Authority Representative	MRWA	enquiries@mainroads.wa.gov.au
Local Government	City of Melville	melinfo@melville.wa.gov.au
Project Manager / Prime Contractor	Peter Widzynski	peter.widzynski@icsaust.com.au
Site Supervisor/Manager	Paul Tognolini	paul.tognolini@icsaust.com.au
TMP Design	Mikayla Smith	mikayla@highwaystraffic.com.au
TMP Implementation	Highways Traffic	operations@highwaystraffic.com.au

ICS Australia have engaged Highways Traffic to prepare this Traffic Management Plan and associated controls for the works.

The TMP will be implemented by Highways Traffic acc No 0056 or by an accredited traffic management contractor chosen by HT or ICS Australia to implement the traffic management schemes on HT's behalf.

3. RISK MANAGEMENT

The following details the preliminary assessment of site hazards likely to be encountered, the level of risk associated with each, and the control proposed. Note that the risk level is the level of assessed risk ***without*** the controls in place. The controls listed have been determined as being appropriate in reducing the risk to a level that is acceptable.

The hierarchy of control has been utilised to ensure that the highest practicable level of protection and safety is selected:

- Elimination
- Substitution
- Isolation
- Engineering
- Administration
- Personal Protection Equipment

In evaluating the options, a key consideration is whether the option takes traffic around, through or past the worksite.

3.1 Risk Classification Tables

QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Level	Consequence	Description
1	Insignificant	Mid-block hourly traffic flow per lane is equal to or less than the allowable lane capacity detailed in AGTTM. No impact to the performance of the network. Affected intersection leg operates at a Level of Service (LoS) of A or B. No property damage.
2	Minor	Mid-block hourly traffic flow per lane is greater than the allowable road capacity and less than 110% of the allowable road capacity as detailed in AGTTM. Minor impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of C. Minor property damage.
3	Moderate	Midblock hourly traffic flow per lane is equal to and greater than 110% and less than 135% of allowable road capacity as detailed in AGTTM. Moderate impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of D. Moderate property damage.
4	Major	Midblock hourly traffic flow per lane is equal to and greater than 135% and less than 170% of allowable road capacity as detailed in AGTTM. Major impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of E. Major property damage.
5	Catastrophic	Midblock hourly traffic flow per lane is equal to and greater than 170% of allowable road capacity as detailed in AGTTM. Unacceptable impact to the performance of the network. Intersection performance operates at a Level of Service (LoS) of F. Total property damage.

WHS QUALITATIVE MEASURES OF CONSEQUENCE OR IMPACT

Level	Consequence	Description
1	Insignificant	No treatment required
2	Minor	First aid treatment required.
3	Moderate	Medical treatment required or Lost Time Injury
4	Major	Single fatality or major injuries or severe permanent disablement
5	Catastrophic	Multiple fatalities.

QUALITATIVE MEASURES OF LIKELIHOOD

Level	Likelihood	Description
A	Almost certain	The event or hazard: is expected to occur in most circumstances, will probably occur with a frequency in excess of 10 times per year.
B	Likely	The event or hazard: Will probably occur in most circumstances, will probably occur with a frequency of between 1 and 10 times per year.
C	Possible	The event or hazard: might occur at some time, will probably occur with a frequency of 0.1 to 1 times per year (i.e., once in 1 to 10 years).
D	Unlikely	The event or hazard: could occur at some time, will probably occur with a frequency of 0.02 to 0.1 times per year (i.e., once in 10 to 50 years).
E	Rare	The event or hazard: may occur only in exceptional circumstances, will probably occur with a frequency of less than 0.02 times per year (i.e., less than once in 50 years).

IMPORTANT NOTE: The likelihood of an event or hazard occurring shall first be assessed over the duration of the activity (i.e., “period of exposure”). For risk assessment purposes the assessed likelihood shall then be proportioned for a “period of exposure” of one year.

Example: An activity has a duration of 6 weeks (i.e., “period of exposure” = 6 weeks). The event or hazard being considered is assessed as likely to occur once every 20 times the activity occurs (i.e., likelihood or frequency = 1 event/20 times activity occurs = 0.05 times per activity). Assessed annual likelihood or frequency = 0.05 times per activity x 52 weeks/6 weeks = 0.4 times per year. Assessed likelihood = Possible.

QUALITATIVE RISK ANALYSIS MATRIX – RISK RATING

	CONSEQUENCE				
Likelihood	**Insignificant (1)**	**Minor (2)**	**Moderate (3)**	**Major (4)**	**Catastrophic (5)**
Almost certain (A)	**Low 5**	**High 10**	**High 15**	**Very High 20**	**Very High 25**
Likely (B)	**Low 4**	**Medium 8**	**High 12**	**Very High 16**	**Very High 20**
Possible (C)	**Low 3**	**Low 6**	**Medium 9**	**High 12**	**High 15**
Unlikely (D)	**Low 2**	**Low 4**	**Low 6**	**Medium 8**	**High 10**
Rare (E)	**Low 1**	**Low 2**	**Low 3**	**Low 4**	**Medium 7**

MANAGEMENT APPROACH FOR RESIDUAL RISK RATING

Residual Risk Rating	Required Treatment
Very High	Unacceptable risk. **HOLD POINT**. Work cannot proceed until risk has been reduced.
High	High priority, WHS MR and Roadworks Traffic Manager (RTM) must review the risk assessment and approve the treatment and endorse the TGS prior to its implementation.
Medium	Medium Risk, standard traffic control and work practices subject to review by accredited AWTM personnel prior to implementation.
Low	Managed in accordance with the approved management procedures and traffic control practices.

3.2 Risk Register

Generic Risks

Item	Risk Event	Consequence	Pre–treatment Risk			Treatment	Residual Risk			TMP/TGS Reference
			L	C	RR		L	C	RR	
1	Distracted or impaired motorists may crash into workers during setup / pickup of TTM signs and devices	Serious injury to workers	B	4	VH16	• Personnel implementing TMP/TGS are to be qualified with a minimum BWTM, are aware of correct procedures and follow safe work practises as outlined in SWMS. • Use vehicle with 2 flashing beacons to shadow workers on foot, equipment should be unloaded from the non-traffic side or the rear of the vehicle - lookout person to warn of approaching traffic. • Refer to section 7.2 of the TMP for additional guidance on setup / pickup	C	3	M9	7.2
2	Onsite implementation incorrect signage or device layout	Inadequate protection of the work site resulting in near misses	B	3	H12	• Personnel implementing TMP/TGS are to be qualified with a minimum BWTM. • On completion of setting out the traffic control measures drive through site check shall be performed to ensure compliance with TGS and recorded in daily diary. • Adjustment of signs and devices within tolerances specified AGTTM 3 – 2.5.3	D	3	L6	6.2.2.3, 7.3.2
3	TTM signage displaced risk of noncompliance due to windy conditions, heavy vehicles, or traffic speed	Inadequate protection of the work site resulting in near misses	C	3	M9	• Portable temporary signage shall be appropriately weighted as per COP 6.3.1 • Contractor / traffic supervisor (minimum BWTM) to undertake regular site checks of the traffic control measures and make necessary adjustments to ensure visibility.	D	3	L6	Appendix C
4	Topography or sight distance restricting motorists view increased risk of traffic conflicting with site and personnel or accidents/collisions	Vehicle collisions	B	3	H12	• Operational check shall be carried out once the TGS's have been implemented to ensure devices are operating correctly and determine if any onsite adjustments are required using the tolerances specified in section 7.3.2 • Establish advanced warning temporary speed zone & repeater signs where required.	C	3	M9	7.3.2, Appendix C
5	Topography or sight distance restricting motorists view increased risk of traffic conflicting with site and personnel or accidents/collisions	Personal injury	B	3	H12	• Operational check shall be carried out once the TGS's have been implemented to ensure devices are operating correctly and determine if any onsite adjustments are required using the tolerances specified in section 7.3.2 • Establish advanced warning temporary speed zone & repeater signs where required.	C	3	M9	7.3.2, Appendix C

Item	Risk Event	Consequence	Pre–treatment Risk			Treatment	Residual Risk			TMP/TGS Reference
			L	C	RR		L	C	RR	
6	Vegetation creates obstruction or shadowing decreased visibility to approach signs, increased risk of traffic conflicting with site and personnel or accidents/collisions	Personal injury	B	3	H12	Reposition signs / devices in a clear position. Increase warning distances by 25% where necessary until signage is clear. Regular site checks, flashing lights on vehicles, PPE.	C	3	M9	7.3.
7	Vegetation creates obstruction or shadowing decreased visibility to approach signs, increased risk of traffic conflicting with site and personnel or accidents/collisions	Vehicle collisions	B	3	H12	Reposition signs / devices in a clear position. Increase warning distances by 25% where necessary until signage is clear. Regular site checks, flashing lights on vehicles, PPE.	C	3	M9	7.3.
8	Disposing of litter / cigarette butts into the environment	Damage to flora, injury to fauna	C	3	M9	All personnel to contain rubbish in their vehicles or into bins if available	D	3	L6	3.2
9	Placement of signs and devices on plants or bushes within a sensitive area or which may harbor fauna	Damage to flora, injury to fauna	C	2	L6	Sign distancing may be adjusted within the tolerances providing in Section 7.3.2	D	2	L4	7.3.2
10	Due to road alignments, advertising signage, shadows or vegetation, the signs and devices may become illegible	• Vehicle collisions • Failure to comply with signs and devices. • Unsuspecting drivers	C	4	H12	• T/C's to reposition signs and devices to allowable tolerances (min 10% less or 25% more than D, Cones to a maximum of 10% more), as required. • Regular site inspections to occur	D	4	M8	7.3.2

Site Specific Risks

Item	Risk Event	Consequence	Pre–treatment Risk			Treatment	Residual Risk			TMP/TGS Reference
			L	C	RR		L	C	RR	
1	Accidents due to dust, potholes, loose stones etc caused by truck movements	• Injury to road users • Damage to Vehicles	C	3	M9	ICS shall have the responsibility to ensure regular monitoring, upkeep, watering and maintenance is conducted and actioned immediately where risks become present.	D	3	L4	3.2
2	Several Trucks arriving at the same time could lead to trucks queuing/waiting on Canning Highway	• Traffic congestion • Traffic accident/ collision	B	3	H12	Trucks to be spaced out to ensure there is no queuing of Trucks on Canning Highway. Deliveries should be avoided during peak hours.	C	3	M9	3.2
3	Traffic unaware of work vehicles entering site on Canning highway, cause rear end collision	Vehicle collisions	C	4	H12	Advanced warning signage truck symbolic shall be implemented prior to the site entrance.	D	4	M8	7.4 TGS 01
4	Traffic unaware of work vehicles entering site on Canning Highway, cause rear end collision	Personal injury	B	3	H12	Advanced warning signage truck symbolic shall be implemented prior to the site entrance.	C	3	M9	7.4 TGS 01

Item	Risk Event	Consequence	Pre–treatment Risk			Treatment	Residual Risk			TMP/TGS Reference
			L	C	RR		L	C	RR	
5	Unexpected movement of vehicles, equipment in, out & around of the site, potentially causing an accident with passing traffic.	Personal injury	B	3	H12	Vehicles shall decelerate slowly & signal their intention by indicator to leave the traffic stream – rotating lights shall be activated. A spotter may act as a gate keeper to allow entry into site. Vehicles leaving the worksite should be travelling at 15kph and shall only enter traffic stream when advised by the "spotter" when it is safe so – rotating lights turned off.	C	3	M9	7.4
6	Sun glare resulting in decreased visibility for road users resulting in impact with worksite equipment.	Damage to equipment	C	2	L6	Contractor and traffic supervisor (minimum BWTM) to undertake regular audits of the traffic control measures and make necessary adjustments to ensure visibility.	D	2	L4	Appendix C
7	Sun glare conditions resulting in decreased visibility for road users resulting in impact with work site personnel.	Injury to personnel	C	4	H12	Contractor and traffic supervisor (minimum BWTM) to undertake regular site checks of the traffic control measures and make necessary adjustments to ensure visibility.	D	4	M8	Appendix C
8	Poor weather conditions resulting in decreased visibility for road users resulting in impact with worksite equipment.	Damage to equipment	C	2	L6	Contractor and traffic supervisor (minimum BWTM) to undertake regular audits of the traffic control measures and make necessary adjustments to ensure visibility.	D	2	L4	5.1.1
9	Poor weather conditions resulting in decreased visibility for road users resulting in impact with work site personnel.	Personal injury	C	4	H12	Contractor and traffic supervisor (minimum BWTM) to undertake regular site checks of the traffic control measures and make necessary adjustments to ensure visibility.	D	4	M8	5.1.1
10	Signage left on site at nighttime could lead to decreased readability for passing motorised resulting in vehicle crashes, entry into site etc	• Vehicle collisions • Near misses	C	3	M9	All signs and devices are to be of Class 1 retro-reflective materials.	D	3	L6	4.3
11	Signage left on site at nighttime could lead to decreased readability for passing motorised resulting in vehicle crashes, entry into site etc	Worker injuries	B	3	H12	• All signs and devices are to be of Class 1 retro-reflective materials.	C	3	M9	4.3
13	Work vehicles entering site could entice unsuspecting following vehicles to enter into site	Worker injuries	B	3	H12	• Entering vehicle to display flashing beacons just prior to entry. • Entering vehicle to slow down prior to entry. • Use Hazard indicators when in site.	C	3	M9	7.4

Item	Risk Event	Consequence	Pre–treatment Risk			Treatment	Residual Risk			TMP/TGS Reference
			L	C	RR		L	C	RR	
14	Work vehicles entering site could entice unsuspecting following vehicles to enter into site	• Near misses • Rear end collisions	C	2	L6	• Entering vehicle to display flashing beacons just prior to entry. • Entering vehicle to slow down prior to entry. • Use Hazard indicators when in site.	D	2	L4	7.4
15	Trucks unloading close to access point, possible with other trucks arriving and queuing close to or on the road causing collision	• Traffic congestion • Traffic accident/ collision	C	4	H12	• All trucks are to be unloaded away from the site access point ensuring there is adequate space for vehicles to navigate past the trucks, with a clear line of sight. • Access to and from the site may be assisted by a spotter to assist drivers entering the traffic stream when required.	D	4	M8	3.2
16	Trucks unloading close to access point, possible with other trucks arriving and queuing close to or on the road causing collision	Personal Injury	B	3	H12	• All trucks are to be unloaded away from the site access point ensuring there is adequate space for vehicles to navigate past the trucks, with a clear line of sight. • Access to and from the site may be assisted by a Spotter to assist drivers entering the traffic stream when required.	C	3	M9	3.2
17	Loss of communication with other onsite personnel, (or if necessary heavy transport), resulting in vehicle collision or physical injury	Vehicle collisions	C	3	M9	• Ensure all communications devices (UHF CB Radios/Mobile Phones) are functional and compatible. Confirm UHF channel to be used by all relevant personnel. • Cease work immediately and relocate to a ‘safe’ parking area in the event of an incident, near miss or communications breakdown. • Handheld UHF radios shall be carried in each vehicle for ‘out-of-vehicle’ work or as emergency spare. • Observe good radio communication protocols	D	3	L6	7.5
18	Loss of communication with other onsite personnel, (or if necessary heavy transport), resulting in vehicle collision or physical injury	Personal injury	B	3	H12	• Ensure all communications devices (UHF CB Radios/Mobile Phones) are functional and compatible. Confirm UHF channel to be used by all relevant personnel. • Cease work immediately and relocate to a ‘safe’ parking area in the event of an incident, near miss or communications breakdown. • Handheld UHF radios shall be carried in each vehicle for ‘out-of-vehicle’ work or as emergency spare. • Observe good radio communication protocols	C	3	M9	7.5

4. TRAFFIC MANAGEMENT PLANNING AND ASSESSMENT

4.1 Traffic Assessment and Analysis

4.1.1 Traffic and Speed Data

A summary of recent traffic data is provided below:

Location	Vehicles per day (% heavy vehicles)	Date	Source
Canning Highway, West of North Lake Road - 0645	39,902VPD 6.7%HV	2018/19	Traffic Map

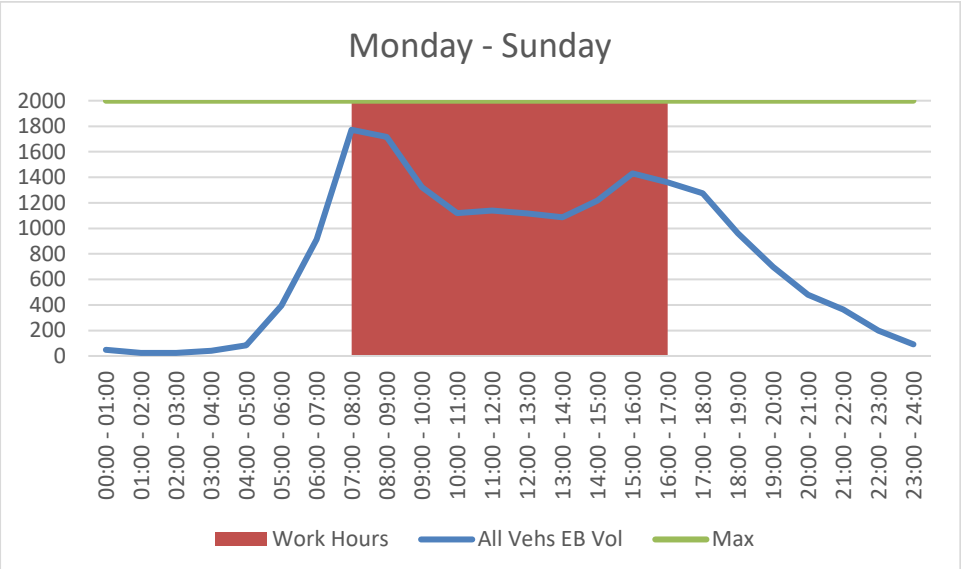
A summary of recent speed data is provided below:

Location	Posted Speed (km/h)	85th Percentile Speed (km/h)	Date	Source
Canning Highway, West of North Lake Road - 0645	60km/h	59.9km/h	2018/19	Traffic Map

4.1.2 Traffic Flow Analysis

The historical traffic data provided in Appendix D outlines traffic volumes for Canning Highway West of North Lake Road. This shows that traffic volumes on peak EB at 1772VPH and averages at 1329VPH.

HV volumes are available as per section 4.1.1. The hourly peaks and volumes are shown in the graphs below.



The work days and hours meet the AGTTM requirements of 1000VPLPH as per the AGTTM Volume 3 section 2.5.7.
Traffic flows will not be affected as the works consist of ingress & ingress of work vehicles for the delivery of materials, plant & machinery to & from site & no works will be taking place on the roadway.

4.1.3 Temporary Speed Zones

The existing speed limit of 60km/h shall be retained on Canning Highway due to speed limit being sufficient for the works due to no workers on foot within 3m of traffic lanes from Monday 8th January – Monday 6th May 2024 07:00-17:00.

4.1.4 Existing Traffic signals

There are traffic signals to the East of the works, however, shall not be impacted by the works.

4.1.5 Impact to adjoining network

The works do not impact on the traffic lanes therefore, no impact to the adjoining network is expected.

4.1.6 End of Queue Treatment

These works do not include stop / slow therefore, end of queue treatment is not required.

4.1.7 Portable Traffic Control Devices (PTCDs)

N/A

4.1.8 Speed Management

Works do not include a speed reduction; therefore, speed management is not required.

4.1.9 Excavations or Above Ground Hazards

There will be above ground hazards in the form of temporary traffic management signage which will be implemented off the traffic lanes on verges. This traffic management signage is required to give road users and pedestrians advanced warning of the works.

4.2 Road Users

4.2.1 Pedestrians

Pedestrians will be impacted by the works as worksite vehicles will need to enter the worksite via the entry driveway that crosses over the northern pedestrian footpath on canning Highway. Pedestrian Watch your step signage shall be implemented. A spotter may also be in place to help manage pedestrians & work vehicles.

4.2.2 Cyclists

There are not currently any cycle lanes in the vicinity of the works however cyclists may be impacted by the works as they are permitted to use the pedestrian paths provided, cyclists shall abide by the signage set out by traffic management.

4.2.3 Public Transport

The are currently bus routes/stops within the vicinity of the works however no works will take place on the roadway therefore, PTA will not be impacted.

4.2.4 Heavy and Oversized Vehicles

Canning Highway does not form part of the MRWA RAV network therefore, MRWA HVS will not be impacted.

4.2.5 Existing Parking Facilities

There are no existing parking facilities in the vicinity of the works.

4.2.6 Access to Adjoining Properties / Business

Access to adjoining properties and businesses will not be impacted.

4.2.7 Rail Crossings

There are no rail crossings in the vicinity of these works.

4.2.8 School Crossings

There are no school crossings in the vicinity of these works.

4.2.9 Special Events and Other Works

At the time of production of this TMP no conflicting works or projects could be identified.

4.2.10 Emergency Vehicle Access

Emergency vehicles will not be impacted as the works will not take place on the roadway.

4.3 Night Work Provisions

No works will be undertaken after hours however, Aftercare signage shall remain in place. All signs used at night are to be Class 1 Retro-reflective material.

4.4 Road Safety Barriers

Not applicable as the works do not include any excavations.

4.5 Shadow Vehicles

Not applicable due to no workers on foot within 6m of the roadway.

4.6 Consultation and Communication / Notification

4.6.1 Other Agencies

Emergency services shall be notified prior to works, the City of Melville & MRWA shall be consulted prior to works commencing.

4.6.2 Public

Due to the nature of the works being only vehicle ingress & ingress to & from site and do not take place on the roadway no public notification is scheduled for these works.

5. SITE ASSESSMENT

5.1 Provision to Address Environmental Conditions

5.1.1 Adverse Weather

Weather is not expected to adversely impact on the effectiveness of the traffic control detailed on the attached TGS's. Notwithstanding this, should adverse weather conditions be encountered during the works, the following contingency plans should be activated. Note: any adjustments to the plan shall be risk assessed and approved by someone holding a WTM or AWTM accreditation. Major changes will require road authority approval.

5.1.1.1 Rain

In the event of rain, an on-site assessment shall be made and sign spacing, and tapers may be extended by 25% to account for increased stopping distances. Slippery (T3-3) signs may be placed as required and all changes shall be recorded in the daily diary.

If rain occurs, Traffic Management Personnel shall inspect the site and where signage and / or devices are not clearly visible, signage may need to be adjusted to improve visibility or if

necessary, provide additional signage and delineation. Where stopping distances are adversely affected by wet surfaces, spacing between signs may need to be adjusted to provide increased reaction time for drivers. In cases where it is determined that the rain is so heavy that the risk is considered unacceptable, all work shall cease until rain has cleared. All changes shall be noted in the daily diary.

5.1.1.2 Floods

Should works be affected by flooding to the extent that the worksite becomes impassable, or risk is considered unacceptable, all work shall cease immediately, and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site and direct traffic around the flooded area (under the direction of the project manager or traffic manager). Emergency services and the Road Authority shall be notified immediately, and Traffic Controllers shall remain onsite until emergency services and the Road Authority personnel arrive and take control of the site.

5.1.1.3 Other adverse weather (strong winds, thunder storms, etc.)

In the event of other adverse weather, an on-site assessment shall be made and in the event of thunderstorms, sign spacing, and tapers may be extended by 25% to account for increased stopping distances. Slippery (T3-3) signs may be placed as required and all changes shall be recorded in the daily diary.

In the event of strong winds, extra weights shall be placed on all signage legs and an on-site assessment shall be made, if conditions are deemed too dangerous for works to continue, works shall cease and reinstatement crew shall pack up and leave site, traffic management shall then pack up all signage and delineators and leave site.

5.1.2 Sun Glare

Where sun glare is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk from glare. Additionally, in the event that traffic control is adversely affected by glare at sunset and sunrise, traffic controllers may need to assist in maintaining low traffic speeds.

All changes are to be noted in the daily diary.

5.1.3 Fog, Dust and Smoke

Where fog, dust or smoke is identified as adversely affecting a driver's ability to sight signage and / or traffic control devices, sign locations may need to be adjusted and additional delineation and/or traffic control devices provided to address the risk. All changes are to be noted in the daily diary.

Should works be affected by fog, dust, or smoke to the extent that risk is considered unacceptable, all work shall cease immediately, and Traffic Controllers (and other personnel if necessary) shall be deployed immediately to close the site.

5.1.4 Road Geometry, Terrain, Vegetation and Structures

Signage will be clearly visible at all times due to good clearing and terrain in the signage positioning areas, signage shall be duplicated on both sides of the roadway on multi lane carriageways. Vegetation is not expected to have any impact on these works.

Signs may be repositioned by the traffic supervisor (minimum BWTM) to ensure the optimum position is obtained for maximum visibility. All changes shall be recorded in the daily diary. Tolerances as per the AS 1742.3 Minimum 10% less or Maximum 25% more than the distances specified.

5.2 Existing Traffic and Adverting Signs

Any conflicting signage shall be covered as per CoP 6.4 in accordance with clause 4.2.6 of AS1742.3

6. SAFETY PLAN

6.1 Work Health and Safety

All persons and organisations undertaking these works or using the roadwork site have a duty of care under statute and common law to themselves, workers, and all site users, lawfully using the site, to take all reasonable measures to prevent accident or injury.
This TMP forms part of the overall project Safety Management Plan and provides details on how all road users considered likely to pass through, past, or around the worksite will be safely and efficiently managed for the full duration of the site occupancy and works.

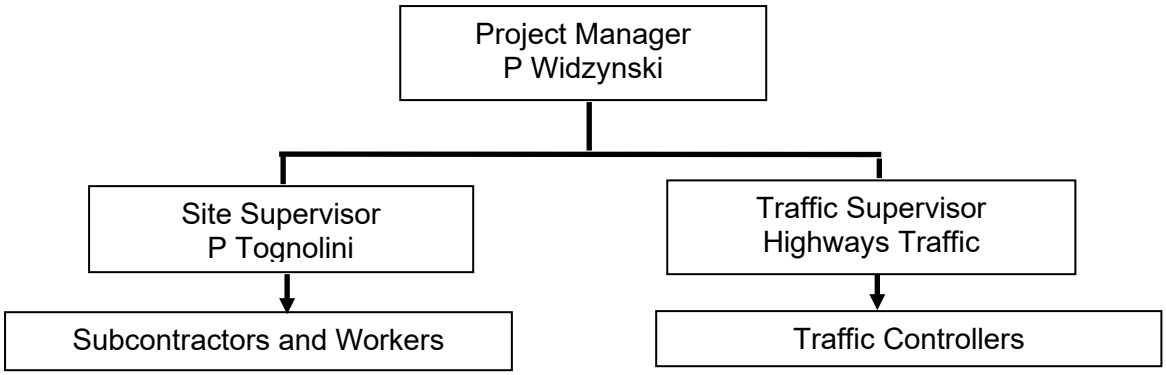
6.2 Roles and Responsibilities

6.2.1 Responsibilities

The Project Manager has the ultimate responsibility to ensure the TMP is implemented for the prevention of injury and property damage to employees, contractors, sub-contractors, road users and all members of the public.
The Project manager will ensure all site personnel are fully aware of their responsibilities, and that Traffic Controllers are appropriately trained and accredited and that sufficient controllers are available to ensure appropriate breaks are taken.
All personnel engaged in the field activities will follow the correct work practices as required by the CoP, AGTTM and AS1742.3.
All personnel will not commence or continue work until all signs, devices and barricades are in place and operational in accordance with the requirements of the TMP.
All personnel responsible for temporary traffic management shall ensure that the number, type and location of signs, devices and barricades are to a standard not less than Appendix F of this plan, CoP, AGTTM and AS1742.3 (except where specifically detailed in this TMP with reasons for the variations). Should a situation arise that is not covered by this TMP, CoP, AGTTM or AS1742.3, the Road Authority Representative shall be notified.

6.2.2 Roles

The following diagram outlines the responsibility hierarchy of this contact.



6.2.2.1 Project Manager

The project manager shall:

- Ensure all traffic control measures of this TMP are placed and maintained in accordance with this plan and the relevant Acts, Codes, Standards and Guidelines
- Ensure suitable communication and consultation with the affected stakeholders is maintained at all times
- Ensure inspections of the temporary traffic management are undertaken in accordance with the TMP, and results recorded. Any variations shall be detailed together with reasons
- Review feedback from field inspections, worksite personnel and members of the public, and take action to amend the traffic control measures as appropriate following approval from the Road Authority's Representative
- Arrange and/or undertake any necessary audits and incident investigations

6.2.2.2 Site Supervisor

The site supervisor is responsible for overseeing the day-to-day activities, and is therefore responsible for the practical application of the TMP, and shall:

- Instruct workers on the relevant safety standards, including the correct wearing of high visibility safety vests
- Ensure traffic control measures are implemented and maintained in accordance with the TMP
- Undertake and submit the required inspection and evaluation reports to management
- Render assistance to road users and stakeholders when incidences arising out of the works affect the network performance or the safety of road users and workers
- Take appropriate action to correct unsafe conditions, including any necessary modifications to the TMP.

6.2.2.3 Traffic Management Personnel

- At least one person on site shall be accredited in Basic Worksite Traffic Management, and shall have the responsibility of ensuring the traffic management devices are set out in accordance with the TMP
- Traffic management sites involving 'complex traffic arrangements' on Main Roads controlled roads, shall have at least one person with either Worksite Traffic Management or Advanced Worksite Traffic Management accreditation on-site at all times when road workers are present.
- At least one person accredited in Advanced Worksite Traffic Management shall be available to attend the site at short notice at all times to manage variations, contingencies, and emergencies, and to take overall responsibility for traffic management.

6.2.2.4 Traffic Controllers

Traffic Controllers shall be used to control road users to avoid conflict with plant, workers, traffic, and pedestrians, and to stop and direct traffic in emergency situations.
Traffic Controllers shall:

- Operate in accordance with AGTTM Part 7: Traffic Controllers
- Be accredited in Basic Worksite Traffic Management
- Hold a current Traffic Controller's accreditation
- Be relieved from their duty after not more than 2 hours for a period of rest or "other duties" of at least 15 minutes as required by AGTTM and/or OS&H Regulations.

6.2.2.5 Workers and Subcontractors

Workers and Subcontractors shall

- Correctly wear high visibility vests, in addition to other protective equipment required (e.g., footwear, eye protection, helmet sun protection etc.), at all times whilst on the worksite
- Comply with the requirements of the TMP and ensure no activity is undertaken that will endanger the safety of other workers or the general public

Enter and leave the site by approved routes and in accordance with safe work practices

6.3 Personal Protective Equipment (PPE)

All personnel entering the work site shall correctly wear high visibility vests to AS/NZS 4602, in addition to other protective equipment required on a site-by-site basis (e.g., protective footwear, eye protection, helmet, sun protection, respiratory devices etc.) at all times whilst on the worksite.

6.4 Plant and Equipment

All plant and equipment at the workplace shall meet statutory requirements and have the required registration, licences or certification where required. All mobile equipment shall be fitted with suitable reversing alarms. All mobile plant and vehicles shall be fitted with a pair of rotating flashing yellow lamps in accordance with AS1742.3 clause 4.14.1. All workers will be made aware of the safe work practice at the time of the site induction.

6.5 Trip Hazards

The worksite and its immediate surroundings shall be suitably protected and free of hazards, which could result in tripping by cyclists or pedestrians. Hazards, which cannot be removed, shall be suitably protected to prevent injury to road users, including those with sight

impairment. Where level differences are significant, suitable barriers, which preclude pedestrian access shall be used.
Where works extend beyond daylight hours and adjacent lighting is insufficient to illuminate hazards to cyclists or pedestrians, appropriate temporary lighting shall be installed.
The worksite shall be kept tidy to reduce the risk to workers.

7. IMPLEMENTATION

7.1 Traffic Guidance Schemes

The Traffic Guidance Scheme (TGS) outlined in Appendix F and listed below have been provided for the following stages to demonstrate the type of controls that will be implemented throughout the term of the contract. All sign and device requirements are shown on each TGS. Should the use of additional (not shown on the TGS or listing of devices) or reduced number of devices be required due to unforeseen needs, they shall be recorded within the Daily Diary as a variation to the TMP, following prior approval.

Construction Stages	Traffic Management Stages	TGS Number and version	Details
Stage 1	1	01	Advance warning signage for trucks & pedestrian watch your step signage.

7.2 Sequence and Staging

Before work commences, signs and devices at approached to the work area shall be erected in accordance with the relevant TGS, in the following order:

1. Installation of advance warning truck signage on non-work side of the carriageway
2. Installation of advance warning truck signage on work side of the carriageway
3. installation of pedestrian signage

Removal of traffic control signs and devices should be undertaken in the reverse order or erection, progressing from the work area out towards the approaches.

TTM personnel shall only cross traffic lanes within gaps in traffic - lookout person shall be available to warn of approaching traffic or at the designated pedestrian crossing.

7.3 Traffic Control Devices

7.3.1 Sign Requirements

All signs used shall conform to the designs and dimensions as shown in Australian Standard AS 1742.3, AGTTM and the CoP.
Prior to installation, all signs and devices shall be checked by the Site Supervisor or a suitably qualified person to ensure that they are in good condition and meet the following requirements: -

- Mechanical condition - Items that are bent, broken or have surface damage shall not be used.
- Cleanliness - Items should be free from accumulated dirt, road grime or other contamination.
- Colour of fluorescent signs - fluorescent signs whose colour has faded to a point where they have lost their daylight impact shall be replaced.
- Retro reflectivity. - Signs used for night-time or in low light conditions whose retro reflectivity is degraded either from long use or surface damage and does not meet the requirements of AS 1906 shall be replaced.
- Battery operated devices - shall be checked for lamp operation and battery condition.

Where signs do not conform either to the requirements of AS 1742.3 or would fail to pass any of the above checks, they shall be replaced on notice.
Signs and devices shall be positioned and erected in accordance with the locations and spacing's shown on the drawings. All signs shall be positioned and erected such that:

- They are properly displayed and securely mounted.
- They are within the driver's line of sight.
- They cannot be obscured from view.
- They do not obscure other devices from the driver's line of sight.
- They do not become a possible hazard to workers or vehicles; and
- They do not deflect traffic into an undesirable path.

Signs and devices that are erected before they are required shall be covered by a suitable opaque material. The cover shall be removed immediately prior to the commencement of work.
Where there is a potential for conflict of information between existing signage and temporary signage erected for the purpose of traffic control, the existing signs shall be covered. The material covering the sign shall ensure that the sign cannot be seen under all conditions i.e., day, night, and wet weather. Care will be taken to ensure existing signs are not damaged by the covering material or by adhesive tape.

7.3.1.1 Securing Signs and Devices

Signs and devices shall be appropriately weighted to ensure they are secure.

7.3.2 Tolerances on positioning of signs and devices

Where a specific distance for the longitudinal positioning of signs or devices with respect to other items or features is stated, for the spacing of delineating devices or for the length of tapers or markings, the following tolerances may be applied: -
(a) Positioning of signs, length of tapers or markings:
(i) Minimum, 10% less than the distances or lengths given.
(ii) Maximum, 25% more than the distances or lengths given.
(b) Spacing of delineating devices:
(i) Maximum, 10% more than the spacing shown.
(ii) No minimum.
These tolerances shall not apply where a distance, length or spacing is already stated as a maximum, a minimum or a range.

7.3.3 Flashing Arrow Signs

Not applicable as the works do not require flashing arrow signs.

7.3.4 Delineation and Edge Clearance

No delineation required for works as the works are confined behind property boundary fencing & only requires advanced warning signage for vehicle ingress & egress.

7.4 Site Access for Work Vehicles

Construction and/or traffic management vehicles entering and exiting the traffic stream shall be mindful of the conditions that may affect the safety of these movements.
Access points shall be noted on the TGS and traffic controllers, work personnel and suppliers notified. Traffic Controllers may assist work vehicles enter and exit the work area.
All entry and exit movements will be in accordance with the Road Traffic Code and shall be undertaken in the following manner:
Vehicles shall:

- Decelerate slowly and signal their intention by indicator to leave the traffic stream.
- Activate the vehicle's rotating yellow lamp, where fitted, once a speed of 20 km/h. has been reached and at least 50m prior to the exit location.
- Switch on the vehicle hazard lights once the vehicle is stationary.
- Where risks associated with unassisted exit or entry to or from the traffic stream are high, Traffic Controllers should be used to assist entry and exit movements.

Vehicles fitted with rotating amber lamps shall have the vehicle's rotating lamp activated prior to entering the traffic stream and shall undertake the following.

- Switch off the vehicle hazard lights.
- Indicate intention to enter the traffic stream using direction indicators.
- Ensure there is a suitable gap from oncoming traffic to allow for a safe entry manoeuvre; and,
- Turn off the rotating yellow lamp(s) once a speed of 40 km/h is reached.

Entry and exit manoeuvres shall be avoided in close proximity to intersections. Work personnel shall not cross traffic streams on foot unless absolutely necessary.
Construction or traffic management vehicles shall only be parked where indicated on the Traffic Guidance Scheme. Vehicles shall not obstruct paths and be parked an adequate distance from intersections or driveways to ensure clear sight lines remain for all road users.

7.5 Communicating TMP Requirements

The traffic management requirements for this project shall be communicated via the following channels to project personnel, subcontractors, site visitors and other persons who will be on-site (as required):

- Site Induction
- Daily Pre-starts
- Toolbox Talks

All members of the traffic management crew and work crew will carry two-way radios for communication on site.

8. EMERGENCY ARRANGEMENTS AND CONTINGENCIES

8.1 Traffic Incident Procedures

In the event of an incident or accident, whether or not involving traffic or road users, all work shall cease, and traffic shall be stopped as necessary to avoid further deterioration of the situation. First Aid shall be administered as necessary, and medical assistance shall be called for if required.
Road plant within the work area that may impact on any services requiring access to a crash site will be cleared from the area quickly as necessary.

8.1.1 Serious Injury or Fatality

In the case of serious injury or fatality occurring within the traffic management site all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.
An Ambulance and Police shall be called on telephone number 000 where life threatening injuries are apparent.
All road workers and traffic management personnel shall preserve the scene leaving everything in situ, until direction is given by Police or WorkSafe.
A site-specific detour route and/or road closure point will be determined, signed, and controlled by traffic management personnel and advised to Police, who will take charge of the site upon arrival. Detour routes will be determined so as to cater for all types of vehicles required to use them. An example of how to manage an emergency can be found in Section 5 of AGTTM Part 10.
All site personnel shall be briefed on control procedures covering incidents and crashes that result in serious injury or fatalities.

8.1.2 Minor Incident or Vehicle Break Down within Site

Broken down vehicles and vehicles involved in minor non-injury crashes shall be temporarily moved to the verge as soon as possible after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles shall be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Suitable recovery systems shall be used to facilitate prompt removal of broken down or crashed vehicles. Assistance shall be rendered to ensure the impact of the incident on the network is minimised.

Any traffic crash resulting in non-life-threatening injury shall be reported to the WA Police Service on 131 444.
Details of all incidents and accidents shall be reported to the Site Supervisor and Project Manager using the incident report form at Appendix “C” (or similar).

8.2 Emergency Services

Emergency services shall be notified of the proposed works nature, location, date, and times as well as contact details for the site supervisor.
On-site traffic controllers will be equipped with mobile communications to advise and/or liaise with emergency services to ensure a prompt response should the need arise.

8.3 Dangerous Goods

Should any incident arise involving vehicles transporting dangerous goods, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area.
Emergency services shall be notified of the proposed works nature, location, date, and times as well as contact details for the site supervisor. All site personnel shall be briefed on evacuation and control procedures.

8.4 Damage to Services

In the event that gas services are damaged, all work shall cease immediately, machinery and vehicles turned off and the area cleared of personnel as soon as possible. Traffic Controllers (and other personnel if necessary) shall be deployed immediately to ensure no traffic or other road users approach the area. The Police Service and relevant supply authority shall be called immediately. Damage to any other services shall be treated in a similar manner except machinery may remain operational and access may be maintained where it is safe to do so. All site personnel shall be briefed on evacuation and control procedures.

8.5 Failure of Services

8.5.1 Failure of Traffic Signals

In the event that traffic signal infrastructure near the worksite is damaged or fails to operate correctly, all work shall cease immediately, and Main Roads WA Road Network Operation Centre (RNOC) shall be notified immediately (phone 138 111).

8.5.2 Failure of Street Lighting

In the event that street lighting is damaged and fails to operate or operates incorrectly, Traffic Controllers (and other personnel if necessary, with appropriate temporary lighting) shall be deployed immediately if the lighting failure adversely affects road user safety to control traffic movements as required. Western Power shall be notified immediately.

8.5.3 Failure of Power

In the event that power infrastructure is damaged and poses a risk through live current, Traffic Controllers (and other personnel if necessary) shall be deployed immediately to secure the site and prevent entry to the area affected by live power. Western Power shall be notified immediately (phone 13 13 51).

8.6 Emergency Contacts

In the event of an emergency the following relevant authorities must be contacted and advised of the nature of works, location, type of emergency and contact details for the site supervisor.

Emergency Service	E-mail/Website	Phone (Emergency)
WA Police Service	State.Traffic.Intelligence.Planning.&.Co-ordination.Unit@police.wa.gov.au	000
St. John Ambulance	Operations_soc@stjohnwa.com.au	000
DFES	www.dfes.wa.gov.au/contactus/pages/dfesoffices.aspx	000
Power	http://www.westernpower.com.au/customerservice/contactus/	13 13 51
Gas	enquiries@atcogas.com.au	13 13 52
Main Roads	enquires@mainroads.wa.gov.au	138 111
MRWA RNOC	RNOC.Control.Room.Information.Desk@mainroads.wa.gov.au	138 111

9. MONITORING AND MEASUREMENT

9.1 Daily Inspections

Prior to works commencing the Site Supervisor shall communicate the Traffic Management Plan to all key stakeholders and affected parties.
On completion of setting out the traffic control measures; the site is to be monitored for a suitable period of time. If traffic speeds on the approaches to the work site are assessed as being above the temporary posted speed zone for the work site, the Site Supervisor is to initiate action to modify the approach signage and tapers in accordance with the requirements of AGTTM/CoP. All such actions are to be recorded in the Daily Diary. Should road users be observed to continue to travel in excess of the posted speed limit, the police may be requested to attend the site to enforce the temporary posted speed limit.
The Advanced Worksite Traffic Management accredited supervisory person at the worksite may conditionally approve changes made to a complex traffic management plan subject to review and endorsement of the change by an RTM as soon as practicably possible.
The Traffic Management Contractor shall ensure that all temporary signs, devices, and controls are maintained at all times. To achieve this, procedures in line with the requirements outlined in AGTTM Part 6 will be instituted. The monitoring program shall incorporate inspections:

- Before the start of work activities on site,
- During the hours of work,
- Closing down at the end of the shift period, and
- After hours.

A daily record of the inspections shall be kept indicating.

- When traffic controls where erected,
- When changes to controls occurred and why the changes were undertaken,
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

The Traffic Management Contractor shall ensure that personnel are assigned to monitor the traffic control scheme. Inspections shall at least satisfy the following requirements.

9.1.1 Before works start

- Confirm TMP and TGS are suitable for the day's activities.
- Inspect all signs and devices to ensure they are undamaged, clean and comply with the requirements depicted on the TGS.
- All lamps should be checked and cleaned as necessary.
- After any adjustments have been made to the signs and devices, conduct a drive through inspection to confirm effectiveness.

9.1.2 During work hours

- Designate and ensure that appropriate work personnel drive through the site periodically to inspect all signs and devices and ensure they are undamaged and comply with the requirements depicted on the Traffic Guidance Schemes;
- Attend to minor problems as they occur.
- Conduct on the spot maintenance/repairs as required.
- When traffic controllers are on the job, ensure they remain in place at all times. Relieve controllers as necessary to ensure attentiveness is retained.
- During breaks or changes in work activities remove or cover any signs that do not apply (e.g., PREPARE TO STOP, Workers symbolic).
- Re-position signs and devices as required by work processes throughout the day and keep records of any changes.

9.1.3 Closing down each day

- Conduct a pre-close down inspection, allowing time for any appropriate maintenance works.
- Remove all signage (e.g., Prepare to Stop, Symbolic Workers);
- Drive through site and confirm all signs and devices are operating correctly with no misleading visual cues.
- Record details of inspection and any changes made to layout.

9.1.4 After hours

N/A

9.2 TMP Audits and Inspections

No TMP audits or inspections are scheduled for these works.

9.3 Records

A daily diary recording all inspections including variations to the approved TMP shall be kept using the Daily Diary.
The Traffic Supervisor is to record all inspections made on a daily basis and at those times prescribed by the Traffic Management Implementation Standards. Upon completion of each day the Traffic Supervisor shall provide copies of the daily diary record to the Project Manager.
The Traffic Supervisor is to record all variations made to the approved Traffic Management Plan on a daily basis and clearly indicate the nature of the variations and the reason for the variations. Upon completion of each day the Traffic Supervisor shall provide copies of the variation record to the Project Manager.

9.4 Public Feedback

Feedback from the public will be managed in accordance with the Project Community and Stakeholder Engagement Plan.

10. MANAGEMENT REVIEW AND APPROVALS

10.1 TMP Review and Improvement

As this project is of a long-term nature, a review of the effectiveness of the TMP shall be undertaken by the project manager periodically and as part of the close-out procedure and a copy of any findings shall be provided to Highways Traffic.

10.2 Variations

There are no variations included in this TMP however, on-site variations, if required shall only be made following approval by the Traffic Supervisor and recorded in the daily diary. In

emergency situations, on-site variations shall be made and recorded in the daily diary, and the traffic supervisor notified as soon as practicable. Any changes which require alteration to the design of the traffic management shall be consulted to and approved by the designer.

10.3 Approvals, Authorisations and Permits

Before works commence it is necessary to seek approval from the following:

- City of Melville
- MRWA

APPENDIX A – NOTIFICATION OF ROADWORKS

Notifications are to be distributed at least one (1) week in advance of works
Where the traffic management is to interfere with traffic signal operation, prior approval is required 3wks in advance via enquiries@mainroads.wa.gov.au
Where the works will place restrictions on Oversize and/or Restricted Access Vehicles Main Roads HVS requires at least 2 weeks' notice.

TMP Ref No.:	592-01	Comms sent to MRWA Rep:	Yes ☑	No ☐	N/A ☐
If no provide reason, if yes provide Email / contact		enquiries@mainroads.wa.gov.au			
Anticipated start date:	8th January 2024	Anticipated finish date:	6th May 2024		
Daily work hours:	07:00 – 17:00	Is weekend work applicable?:	Yes ☑	No ☐	
Location of works	568 Canning Highway, Attadale				
Description of works:	Worksite vehicle ingress & egress to allow safe entry in & out of site & the delivery of materials, plant & machinery.				
Description of T/M:	Advance warning signage for trucks & pedestrian watch your step signage				
Posted Speed Limit:	60km/h	Worksite limit:	60km/h	After hours limit:	60km/h
Effects on traffic flows	none				

Are lanes closed at signals:	Yes ☐	No ☐	N/A ☑	Are signal loops affected	Yes ☐	No ☐	N/A ☑
Will signal phases change	Yes ☐	No ☐	N/A ☑	Will signals revert auto	Yes ☐	No ☐	N/A ☑
Date of signal "black out":	N/A			Times of signal "black out":	N/A		
WA Police required?:	Yes ☐	No ☑		Dates for Police attendance :	N/A		
Any bridges located in works	Yes ☐	No ☑		Will changes occur on bridges?:	Yes ☐	No ☑	
Are school zones within works?:	Yes ☐	No ☑		Will crossings be altered during works?:	Yes ☐	No ☑	

Oversize and/or Restricted Access Vehicle Roadwork Restrictions

Location of works (include – road name, nearest intersection or marked location and SLKs)									
Road Name(s) Bridge number if applicable									
Nearest Intersection / Marked location / SLK's									
Additional Information									
Width Restriction (>2.5m)	Yes ☐	No ☑	Width limit		Height Restriction (>4.3m)	Yes ☐	No ☑	Height Limit	
Will the width restrictions be in place outside the daily work hours?						Yes ☐	No ☑		
With prior notice can restrictions be removed	Yes ☐	No ☐	N/A ☑	Notice needed					
Is a wider combination achievable if there is a 1.2m ground clearance	Yes ☐	No ☐	N/A ☑	Notice needed					
Can T/M be altered onsite to accommodate the Oversize	Yes ☐	No	N/A ☑	Onsite Contact					
Further Info Contact				Prior notice Contact					
Any road closure impacts on RAV's	Yes ☐	No ☐	N/A ☑	Has detour been MRWA HVS Approved	Yes ☐	No ☐	N/A ☑		

Traffic Management Contractor.	Highways Traffic				
Postal Address:	Po Box 392, Applecross WA 6953. & 3 Downing St, Carlisle WA 6101				
Telephone:	9330 4937	Email:	enquiries@highwaystraffic.com.au	Facsimile:	9330 4929
Contact:	Mikayla Smith				
Telephone:	9330 4937	Email:	mikayla@highwaystraffic.com.au	Mobile:	9330 4937
After hours contact:	Highways Traffic	Email:	operations@highwaystraffic.com.au	Mobile:	9330 4937

Road Authority:	City of Melville / MRWA				
Postal Address:	City of Melville, Locked Bag 1, Booragoon WA 6154 / PO Box 6202, East Perth, WA 6892				
Telephone:	9364 0666	Email:	melinfo@melville.wa.gov.au	Facsimile:	
Telephone:	138 138	Email:	enquiries@mainroads.wa.gov.au	Mobile:	

Contractor:	ICS Australia				
Postal Address:	6/14 Shields Cresent, Booragoon 6154 WA				
Contact:	Peter Widzynski	Email:	peter.widzynski@icsaust.com.au	Phone:	0416 733 756
Supervisor:	Paul Tognolini	Email:	paul.tognolini@icsaust.com.au	Mobile:	0404 567 583

Distribution List	Email
WA Police State Traffic Coordination	State.Traffic.Intelligence.Planning.&.Co-ordination.Unit.SMAIL@police.wa.gov.au
MRWA Customer Information Centre	enquiries@mainroads.wa.gov.au
MRWA Road Network Operations Centre	RNOC.control.room.information.desk@mainroads.wa.gov.au
MRWA Real Time Media	roadworks@mainroads.wa.gov.au
Fire & Emergency Services	fesa@fesa.wa.gov.au
MRWA Digital Communications	communications@mainroads.wa.gov.au
Local Government Authority	melinfo@melville.wa.gov.au

APPENDIX B – VARIATION TO STANDARDS

N/A

APPENDIX C – RECORD FORMS

Daily Diary

CLIENT: _____ **Supervisor:** _____ **Date:** _____

Location & Job details:		**TMP No.:**	
		TGS No.:	

Day Works ☐ **Night Works** ☐ **Weather Conditions:** _____

Start Time:		**Site set up commenced:**		**Site set up completed:**		**Lunch break start time:**	
Pull down commenced:		**Pull down completed:**		**End Time:**		**Lunch break end time:**	

Crew Members:	**Equipment Used Rego No. of each:**	**Hours worked**	**Crew Members:**	**Equipment Used Rego No. of each:**	**Hours worked**
1.			**7.**		
2.			**8.**		
3.			**9.**		
4.			**10.**		
5.			**11.**		
6.			**12.**		

Arrow Board -			VMS Board-		
SMWS Signed	Yes ☐ **No** ☐	Prestart Meeting	Yes ☐ **No** ☐	Vehicle Prestart	Yes ☐ **No** ☐
Fuel	Yes ☐ **No** ☐	Amount: **$**	Amount: **Ltrs**	Admin No.	

Traffic Management Drive Through Site Checks (conducted every 2 hours)

Time of check to be entered							
Are signs upright, clean, visible, level & stable	☐	☐	☐	☐	☐	☐	☐
Are taper lengths correct	☐	☐	☐	☐	☐	☐	☐
Are speed limit signs correct and doubled up	☐	☐	☐	☐	☐	☐	☐
Are sign spacing's correct	☐	☐	☐	☐	☐	☐	☐
Are cone/bollard alignments straight & spaced correctly	☐	☐	☐	☐	☐	☐	☐
Are devices operating correctly	☐	☐	☐	☐	☐	☐	☐
Have pedestrians been catered for	☐	☐	☐	☐	☐	☐	☐
Are lane widths & road surface condition adequate	☐	☐	☐	☐	☐	☐	☐
Are vehicle queue lengths acceptable	☐	☐	☐	☐	☐	☐	☐
Time of 2 hourly breaks for traffic controllers (if applicable)	☐	☐	☐	☐	☐	☐	☐

Site Setup as per TGS ☐ Yes ☐ No (if not note changes in comment section below)	Did an incident occur ☐ Yes ☐ No (if yes complete incident report form)

Time:	**Notes/Comments/Incidents to Report:**

CREW LEADER: _____ **CLIENT REP NAME:** _____ **SIGNATURE:** _____

Incident Report Form

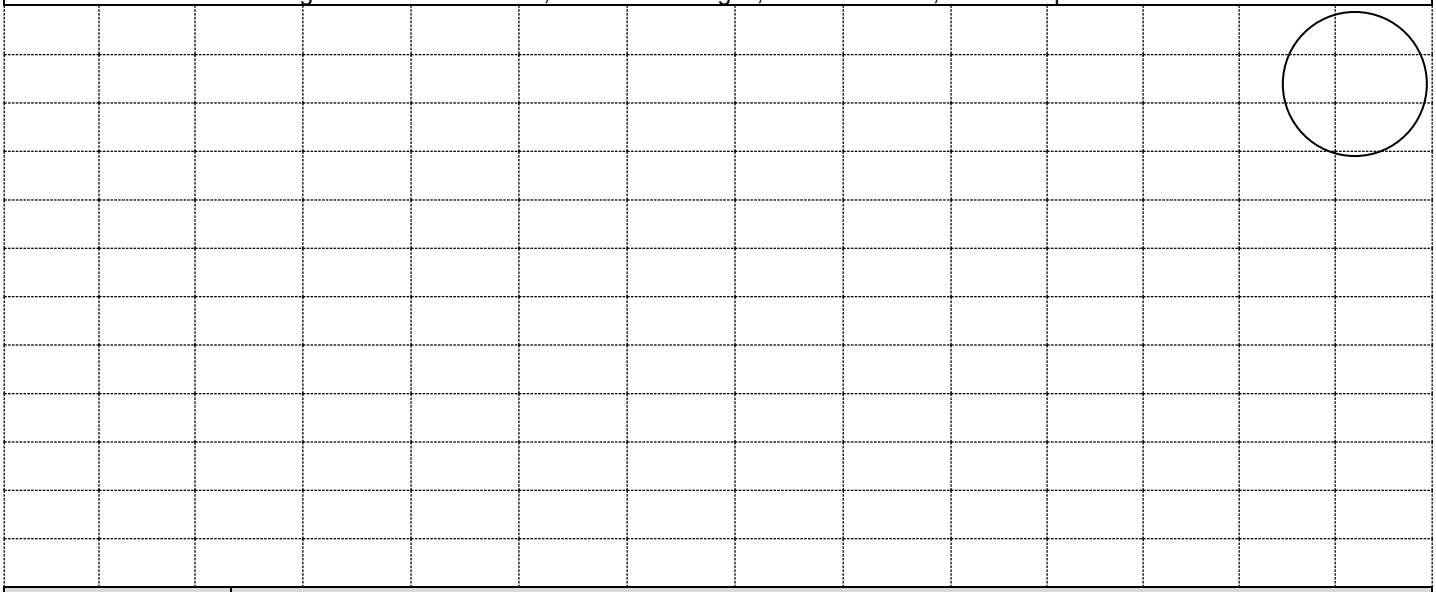
A: Details of Incident	Reported to: Supervisor TM Company Police Other:		
OSH Incident Report No		Police report No.	
Date:		Time:	
Fatality	***Road Surface***	***Atmospheric Conditions***	***Light Conditions***
Injury	Sealed	Clear	Day Light
Property Damage	Unsealed	Overcast	Night Time
Near miss		Raining	Dawn/Dusk
Police attended YES NO	***Road Conditions***	Hail / Snow	***Street Lighting***
	Wet	Windy	On
Time of attendance:	Dry	Fog/Smoke/Dust	Off
	Dirt / Debris (On Rd)	Other:	Not Provided
Other relevant details:			

B: Details of Traffic Management in place:			
TMP No:		TGS No:	
Time last inspected:		Accreditation No (of inspector):	
Date TMP Approved:		TMP Planner / Company:	
TGS changes made:			

C: Descriptions of Vehicles:			
Detail (make, model / pedestrian etc)	Rego No	Direction	Brief description of driver
Vehicle 1:			
Vehicle 2:			
Vehicle 3:			
Vehicle 4:			

D: Description of Incident:

Draw the incident including the direction of travel, traffic control signs, fixed structures, and north point.



E: Attachments	Approved TMP	Approved TGS	Daily Diary	SWMS	(Attach Copies)
F: Police Report	Name		Position		Company
Report Made	Date		WA Pol Ref No.		
In Person	Yes	No	Phone	Yes	No	Email	Yes	No
G: Form Author	Name	Company	Signed		

APPENDIX D – TRAFFIC ANALYSIS AND VOLUME COUNTS

mainroads WESTERN AUSTRALIA

SITE 0645

Hourly Speed

Canning Hwy (H013)

West of North Lake Rd (SLK 10.30)

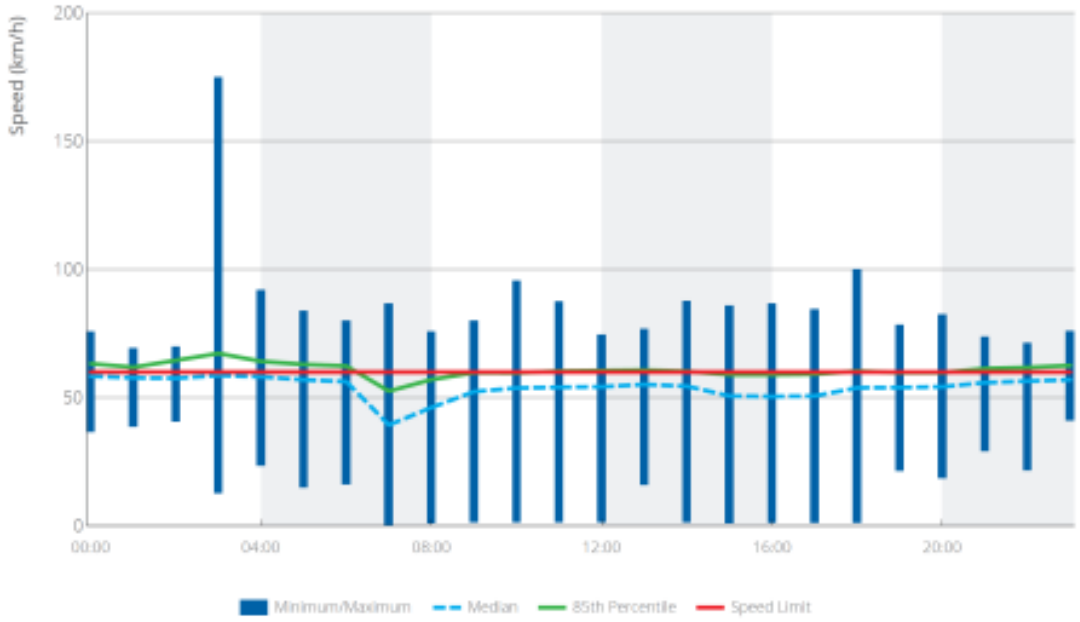
2018/19
Monday to Sunday

60

All Vehicles

Eastbound

	Average Volume/Percentage		Minimum/Maximum		Mean	Median	SD	85th Percentile
00:00	48	0.3	36.6	75.7	57.5	58.4	6.2	63.3
01:00	24	0.1	38.6	69.2	57.2	57.8	5.2	61.9
02:00	24	0.1	40.5	70.0	57.4	57.6	6.3	64.6
03:00	42	0.2	12.6	174.9	64.6	58.7	24.7	67.3
04:00	83	0.4	23.3	91.9	56.8	58.2	10.3	64.2
05:00	395	2.1	14.9	83.8	55.8	57.0	9.0	63.0
06:00	914	4.8	16.0	80.1	54.5	56.3	9.0	62.4
07:00	1772	9.4	0.0	86.7	39.0	39.4	12.9	52.6
08:00	1717	9.1	0.9	75.8	44.6	46.2	12.2	57.1
09:00	1323	7.0	1.3	80.1	50.1	52.4	10.5	59.8
10:00	1118	5.9	1.3	95.6	52.5	53.8	8.2	59.7
11:00	1140	6.0	1.3	87.5	52.8	54.1	8.3	60.4
12:00	1117	5.9	1.3	74.5	53.1	54.3	8.2	60.6
13:00	1087	5.8	15.8	76.7	54.2	55.2	7.2	60.8
14:00	1218	6.5	1.3	87.7	52.7	54.5	9.1	60.3
15:00	1429	7.6	0.9	85.9	48.5	50.7	11.1	59.0
16:00	1361	7.2	1.1	86.8	48.2	50.5	11.4	59.0
17:00	1275	6.8	1.1	84.4	48.3	50.7	11.4	59.2
18:00	961	5.1	1.1	100.0	52.6	53.9	8.4	60.4
19:00	697	3.7	21.4	78.4	53.2	54.0	7.0	59.8
20:00	480	2.5	18.4	82.5	53.7	54.3	6.4	59.8
21:00	365	1.9	29.1	73.7	55.5	55.9	6.4	61.4
22:00	200	1.1	21.5	71.4	55.7	56.5	6.8	61.8
23:00	92	0.5	41.0	75.9	57.0	57.0	5.6	62.6
DAY	18882	100.0	0.0	174.9	50.0	52.5	11.1	59.9



mainroads WESTERN AUSTRALIA

SITE 0645

Hourly Volume

Canning Hwy (H013)

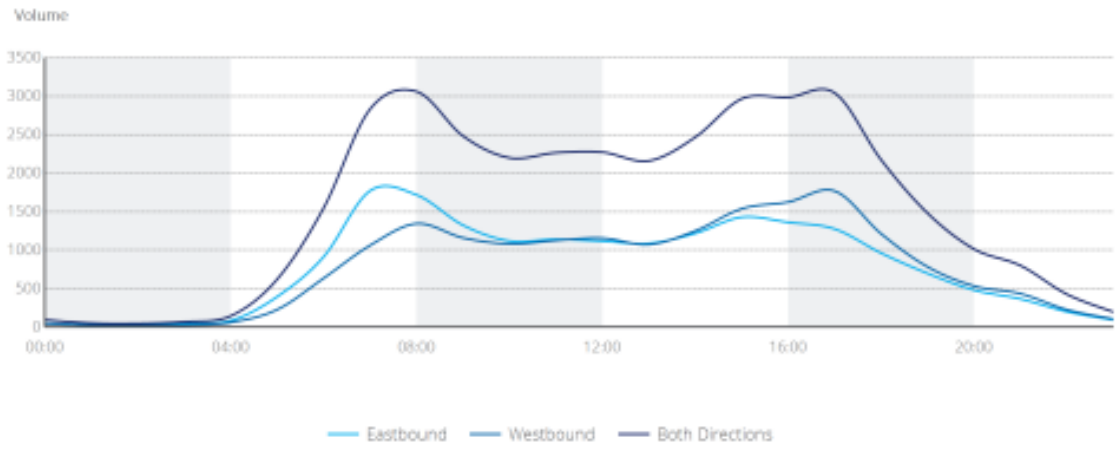
West of North Lake Rd (SLK 10.30)

2018/19
Monday to Sunday

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	48	45	93	2	2	4	4.3
01:00	24	26	50	3	3	6	12.0
02:00	24	21	45	1	1	2	4.4
03:00	42	26	68	2	2	4	5.9
04:00	83	61	144	11	7	18	12.5
05:00	395	227	622	48	20	68	10.9
06:00	914	635	1549	108	69	177	11.4
07:00	1772	1062	2834	111	90	201	7.1
08:00	1717	1344	3061	119	83	202	6.6
09:00	1323	1159	2482	116	99	215	8.7
10:00	1118	1081	2199	96	87	183	8.3
11:00	1140	1126	2265	110	82	192	8.5
12:00	1117	1155	2272	107	87	194	8.5
13:00	1087	1073	2160	92	67	159	7.4
14:00	1218	1250	2468	103	76	179	7.3
15:00	1429	1538	2967	123	68	191	6.4
16:00	1361	1625	2986	93	73	166	5.6
17:00	1275	1768	3043	61	55	116	3.8
18:00	961	1212	2173	46	52	98	4.5
19:00	697	782	1479	34	28	62	4.2
20:00	480	533	1013	18	13	31	3.1
21:00	365	434	799	11	11	22	2.8
22:00	200	225	425	9	9	18	4.2
23:00	92	104	196	6	5	11	5.6
TOTAL	18882	18512	37394	1430	1089	2519	6.7

Peak Statistics

AM	TIME	07:15	07:45	07:30	07:45	09:15	09:00
	VOL	1833	1347	3148	122	101	215
PM	TIME	15:15	17:00	16:45	15:00	12:00	12:00
	VOL	1454	1768	3115	123	87	194

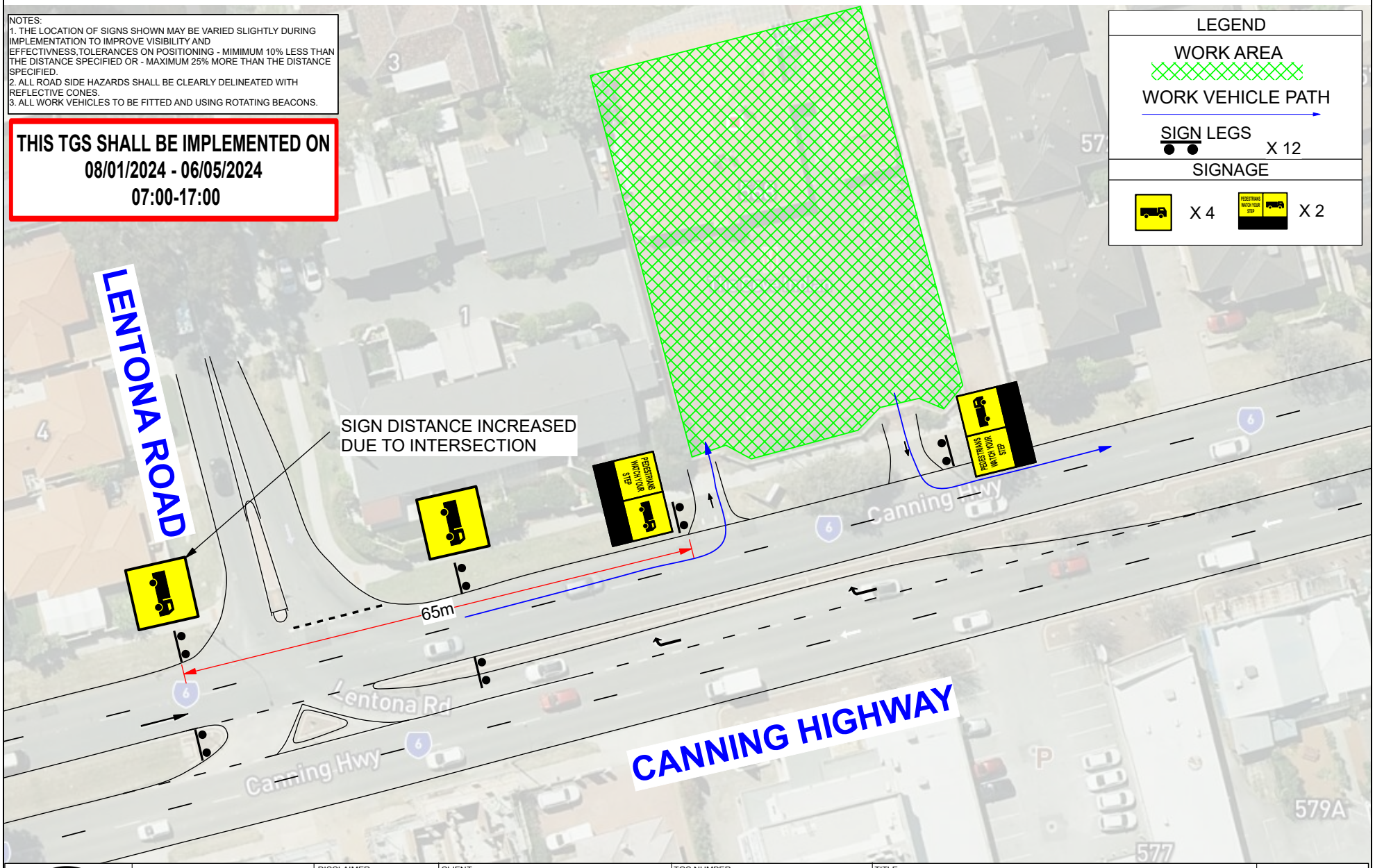


APPENDIX E – ROADWAY ACCESS AUTHORISATION PERMIT

APPENDIX F – TRAFFIC GUIDANCE SCHEMES

NOTES:
1. THE LOCATION OF SIGNS SHOWN MAY BE VARIED SLIGHTLY DURING IMPLEMENTATION TO IMPROVE VISIBILITY AND EFFECTIVNESS,TOLERANCES ON POSITIONING - MIMIMUM 10% LESS THAN THE DISTANCE SPECIFIED OR - MAXIMUM 25% MORE THAN THE DISTANCE SPECIFIED.
2. ALL ROAD SIDE HAZARDS SHALL BE CLEARLY DELINEATED WITH REFLECTIVE CONES.
3. ALL WORK VEHICLES TO BE FITTED AND USING ROTATING BEACONS.

THIS TGS SHALL BE IMPLEMENTED ON
08/01/2024 - 06/05/2024
07:00-17:00



HIGHWAYS TRAFFIC	MIKAYLA SMITH STAP-AWTM-22-11374-01 REVIEWED BY: NICOLE MURPHY STAP-AWTM-23-11533-03 3 DOWNING STREET, CARLISLE WA 6101 P: 9330 4937 | F: 9330 4929 PLANNING@HIGHWAYSTRAFFIC.COM.AU WWW.HIGHWAYSTRAFFIC.COM.AU	DISCLAIMER: This TGS is intended for use only with the work managed by ICS and its employees. Highways Traffic is not responsible for the misuse and/or alterations which are not authorised by Highways Traffic. For full supporting details refer to TMP NTS	CLIENT: ICS Construction | Fitout

TGS NUMBER: 592-01-01

REV:	DATE:	DESCRIPTION:
1	08/12/2023	ISSUED FOR CLIENT REVIEW

TITLE:
WORKSITE VEHICLE INGRESS & EGRESS

LOCATION:
568 CANNING HIGHWAY, ATTADALE

N

Civil and Structural Consulting Engineers
Unit 6, 9 Playle Street
Myaree WA 6154
08 9317 3331
info@rsaeng.com.au
www.rsaeng.com.au

Boundary Wall - Structural Inspection

Lot 568 Canning Highway
Alfred Cove, WA 6154

Client
ICS Australia

RSA Representative
Brian Kabangu

RSA Document No
RSA-24-0102-RP-S-001

Issue Date
28 February 2024

CONDITIONS OF USE

CONTACT INFORMATION

RSA Consulting Engineers
Unit 6, 9 Playle Street
Myaree WA 6154
Tel: +61 8 9317 3331
Email: info@rsaeng.com.au
www.rsaeng.com.au

1. Inspection Scope

ICS Australia has engaged RSA to undertake structural inspections of the boundary wall identified at Lot 568 Canning Highway, Alfred Cove, WA 6154. The purpose of this report is to show and discuss the current condition of the buildings and potential risks of the inspected items. As scoped RSA Pty Ltd will also provide guidance on remediation and plausible solutions if needed.

The inspection undertaken by RSA was non-invasive and visual unless discussed prior to starting. Brian Kabangu acting on behalf of RSA Pty Ltd as a structural engineer, attended site on the 19/02/2024 and inspected the scoped items.

The weather conditions at the time of the inspection were sunny.

RSA spent approximately 1 hour on site and was aided by the following tools;

- Tape measure
- Camera

The project scope comprises of;

- Inspection of scoped items
- Taken images, measurements & notes.
- Reporting on findings

Figure 1: Site Location

2. Basis of Review

RSA has considered and assessed the inspected structures to the following codes, standards and parameters. Some of the parameters assessed are based on our experience as engineers.

This report details the condition of the buildings scoped and related workmanship and normal deterioration of the structure as found. As part of this report no estimates of the cost or time required to repair the defects and do the remedial works have been included.

Table 1: Document Review

Technical Documents reviewed		Pages	Date	Rev
1	AS/NZS 1170.0/1		2002	
2	AS 3600 - Concrete Structures		2018	
3	AS 3700 - Masonry Structures		2018	
3	AS 4678 – Earth-Retaining Structures		2002	

Table 2: Basis of review

Basis of Review		Parameter	Notes/Ref
1.0	Site Soil Classification	A[1]	AS 2870-2011
1.1	Predicted Surface Movement	NA	
1.2	Current Bearing Capacity	NA	
2.0	Imposed Loads		AS/NZS 1170.0:2002
3.0	Wind Loading / Region	A	AS/NZS 1170.2:2021
3.1	Terrain Category	3	
3.2	V_{500}	45	
3.3	$M_{z,cat}$	0.91	
3.4	M_s	1.0	
3.5	M_t	1.0	
3.6	$C_{p,e}$	0.7, -0.6,-0.5	
3.7	$C_{p,i}$	$C_{p,e}$	
4.0	Earthquake Loading	Z = 0.09	AS/NZS 1170.4:2007

[1] Assumed site soil classification based on engineering judgement and knowledge of the location. No formal Site Soil Classification has been undertaken.

3. Risk Review

The report presents photographs illustrating specific locations requiring consideration to decide how to maximise the life of the inspected structure or item and to understand the risk of doing nothing. Generally, unless instructed or able the images are taken without disturbing the subject.

It is intended that this section will be of use to readers looking for overall photos showing the general area at the time of inspection.

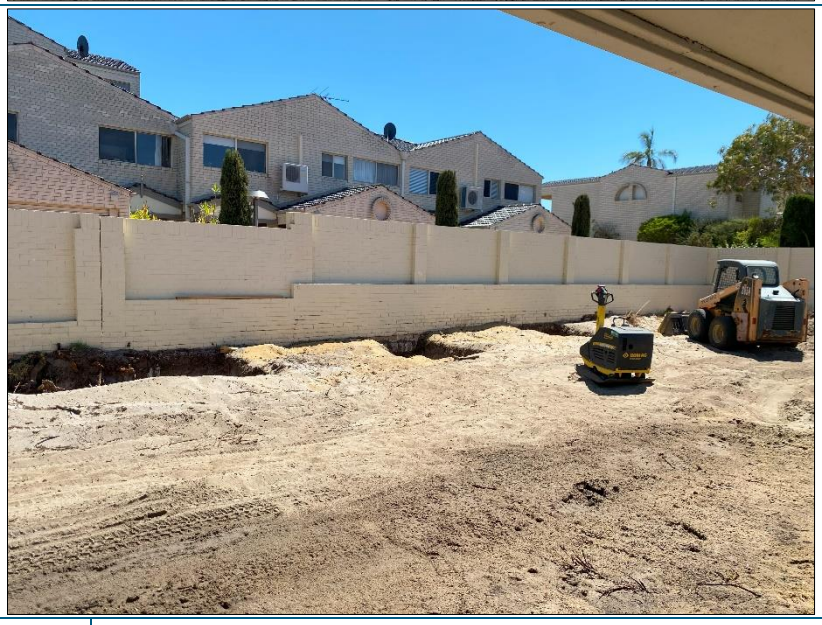
RSA have selected the aligned the severity of the dilapidation portion of this report with our interpretation of the standard risk matrix, shown below. ICS Australia should discuss any item that may be deemed harsh or less important and advise RSA accordingly.

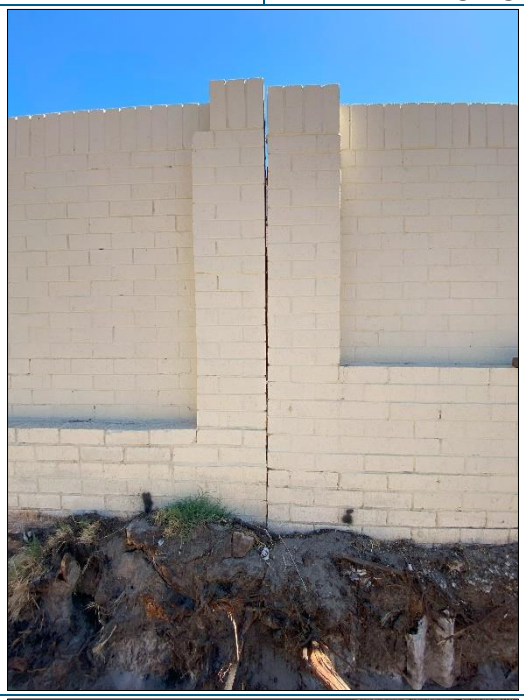
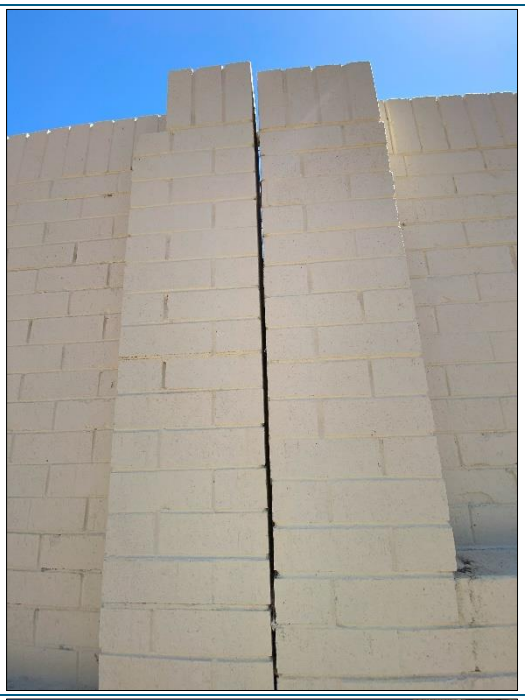
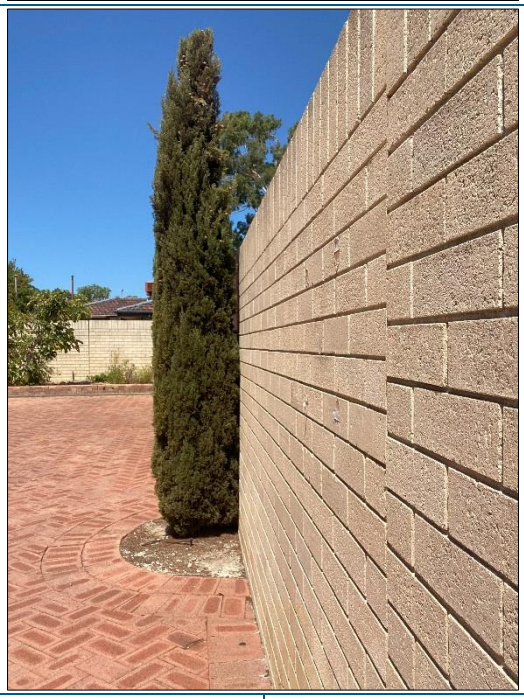
Probability	Harm Severity			
	Negligible	Marginal	Critical	Catastrophic
Certain	High	High	Very High	Very High
Likely	Medium	High	High	Very High
Possible	Low	Medium	High	Very High
Unlikely	Low	Medium	Medium	High
Rare	Low	Low	Medium	Medium
Eliminated	ELIMINATED			

Risk exposure	
Very High	Critical risk exposure. Objectives will not be achieved. Requires relevant management's highest priority.
High	High risk exposure. Achievement of objectives under serious threat. Requires relevant management's active involvement.
Medium	Medium risk exposure. Some threat to achievement of objectives. Requires relevant management's active monitoring.
Low	Low risk exposure. Achievement of objectives not under threat. Can be dealt with in normal course of business.
Eliminated	No risk identified

4. Site Inspection and Commentary

This section is intended to be a visual guide on the findings from site at the time of inspection. Other supporting information, sketches, code extracts and annotations will be provided as needed to provide more context to the issues seen.

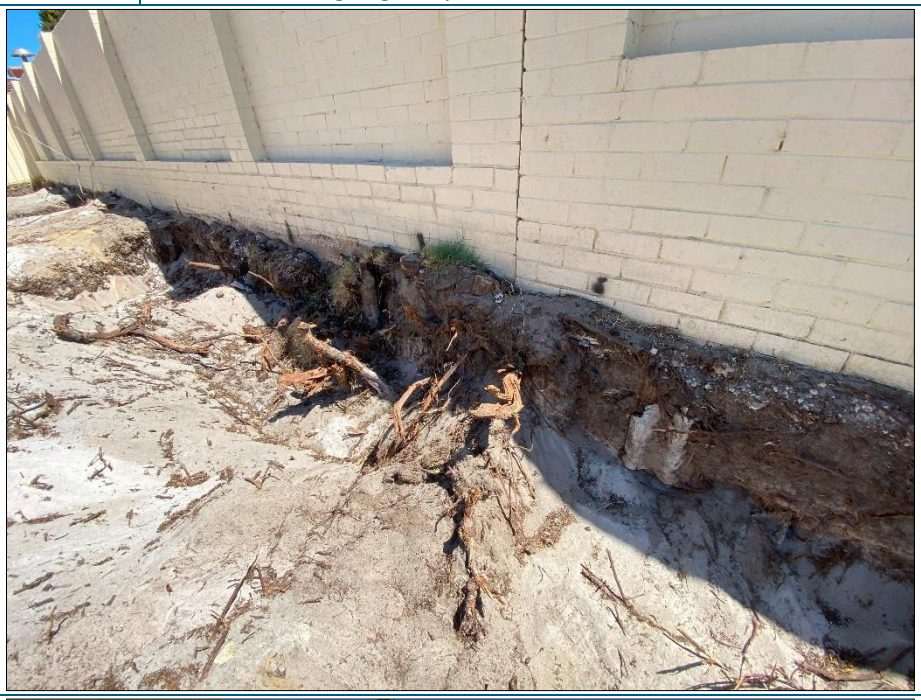
Item 1	**Date:**	2024-02-26
Location:	Lot 568 Canning Highway, Alfred Cove, WA 6154	
		
		
Subject:	General overview	
Commentary: Refer to the following items		

Item 2	Date:	2024-02-26	
Location:	Lot 568 Canning Highway, Alfred Cove, WA 6154		
			
			
Subject:	Contraction Joint		
Risk of Inaction:	**Harm Severity**	**Probability**	**Risk Exposure**
	Critical	Certain	Very High

Commentary:
Wall rotation has been observed at the expansion joint as noted in the inspection report, *Structural Report Common Boundary Wall,* (attached in appendix). RSA notes that the wall rotation has moderately reduced since the removal of the trees and predicts that the root maturation of the existing trees on the adjacent property will progressively impact the wall.

Advice:
The client is advised to closely monitor the joint and trees at the adjacent property.

Item 3	**Date:**	2024-02-26
Location:	Lot 568 Canning Highway, Alfred Cove, WA 6154	



Subject:	Tree roots

Commentary:

RSA observes that the trees reported in November 2021 as referenced in report, *Structural Report Common Boundary Wall,* (attached in appendix) have been removed. The organic remains are not a structural issue and do not pose a risk to the structural integrity of the wall, however, as they degrade, they may cause settlement of the overlying soil. RSA does not believe that the roots have sufficient energy to sprout and impact the boundary wall.

Advice:

Furthermore, the client may treat the tree roots with chemical herbicide if so desired (not mandatory).

Item 4	**Date:**	2024-02-26	
Location:	Lot 568 Canning Highway, Alfred Cove, WA 6154		

Subject:	Footings		
Risk of Inaction:	**Harm Severity**	**Probability**	**Risk Exposure**
	Critical	Certain	Very High

Commentary:

An onsite measure of the strip footing underlying the boundary wall suggests the footing has not been adequately designed. The footings were measured to be 240mm wide and 300mm deep. RSA cannot confirm whether steel reinforcement is present throughout and strongly advises extending the footings.

Advice:

The footings are to be extended as per the design suggested below. The sketch below is intended for illustration purposes only and is not to be used for construction. RSA may issue certified construction drawings if desired.

Item 5	Date:	2024-02-26	
Location:	Lot 568 Canning Highway, Alfred Cove, WA 6154 Birdwood Ave		
			
Subject:	Unreinforced Piers		
Risk of Inaction:	**Harm Severity**	**Probability**	**Risk Exposure**
	Critical	Certain	Very High

Commentary:

Close observation of the piers suggest that steel reinforcement has been omitted in the construction. Masonry construction generally does not perform well under bending stresses due to the brittle nature of the brickwork. The addition of steel reinforcement is necessary to resist the lateral loads that induce tensile stresses on the piers.

Advice:

The brick piers are to be reinforced with steel reo as illustrated in Section 5.

Methodology

1. Contractor is to install scaffolding or a safe platform above the pier and encapsulate the working area ensuring that fall protection equipment is worn.
2. Using a 1metre long drill bit, the contractor is to bore the pier to a depth of 1m then install the second drill piece and continue drilling until the existing footing is reached. Ensure minimum 100m embedment into existing footing.
3. Install 1-N12 bar into the created void and fill with cementitious grout.
4. Dismantle work scaffolding/platform and make area safe.

Refer to Section 5 for further details.

5. Proposed Solution

As previously mentioned, RSA advises that the existing footing is extended to reinforce stability. Additionally, the existing piers are to be reinforced with steel reinforcement embedded into the exiting footings. The sketch below is to serve as a guide and does not replace construction drawings. The new footing must satisfy a minimum concrete grade of N20.

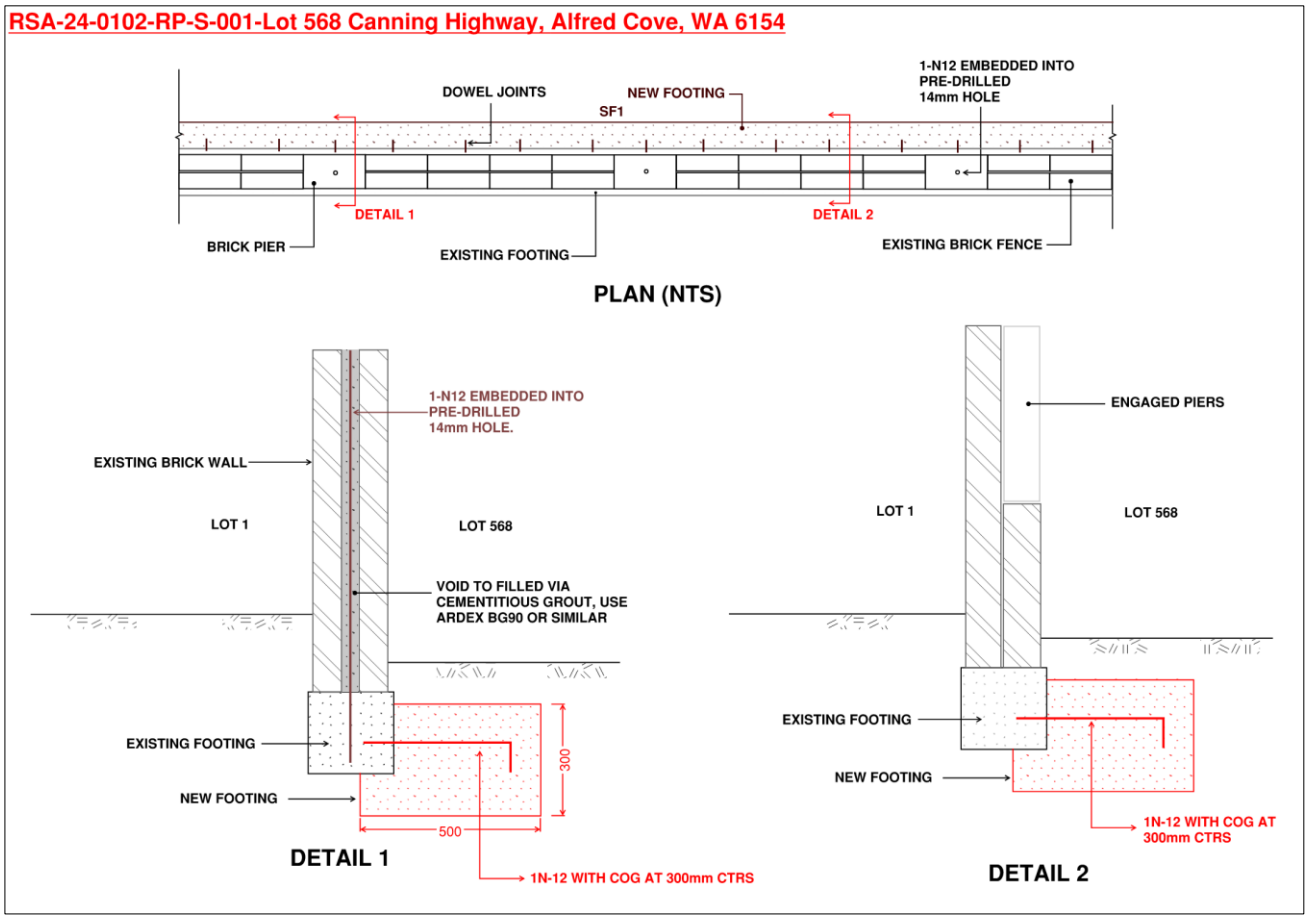


Figure 1: Remedial solution.

6. Conclusion

ICS has engaged engineering reporting services from RSA Pty Ltd. The report through photos, identifies the current condition and potential risks of the inspected items. The inspection undertaken by RSA was non-invasive and was visual unless discussed prior to starting.

RSA acknowledges that trees were removed to eliminate the initial problem as reported in November 2021. Further investigation reveals that the footings were undersized and do not satisfy the minimum requirements mentioned in AS4678. Furthermore, RSA concludes that vertical reinforcement has been omitted in the construction of the engaged piers and must be rectified to ensure adequate bending capacity against lateral loads.

Section 5 proposes a footing extension of appropriate size and tied via dowel joints at the nominated centres. Additionally, a methodology of reinforcing the brick piers has been discussed and must be completed by competent personnel.

RSA advises close monitoring of the construction joint junction for further rotation as it is likely that the maturing of the trees along the wall at LOT 1 will cause ground movement in the soil thus impacting the wall.

RSA believes that the proposed solutions will suffice. If desired, RSA may be contacted for further design specifications and structural drawings to suit.

Brian Kabangu BEng (Hons) MIEAust
Structural Engineer

Tristan Salter BEng (Hons) MIEAust CPEng NER
Civil and Structural Engineer

Strata 15461 (Lot 1)
240 Burke Drive
Attadale WA 6018

Structural Report
Common Boundary Wall

November 2021

No express or implied warranties are made by John Dryka regarding the information and analysis contained in this report. In particular, but without limiting the preceding exclusion, John Dryka will not verify, and will not assume responsibility for, the accuracy and completeness of information provided

This report has been prepared with particular attention to our client's instructions and the relevant features of the subject site. John Dryka accepts no liability whatsoever for:

1. A third party's use of, or reliance upon, this report.
2. Use of, or reliance upon, this report in relation to any land other than the subject site.
3. The Client's implementation, or application, of the strategies recommended in this report.

Direct all inquiries to:

John Dryka MIE (Aust)
Suite 8/9 Cleaver Street
WEST PERTH WA 6005

Ph: 0419 929267

Contents

1 Preliminary 4
1.1 Introduction 4
1.2 Background 4
2 Site 4
2.1 Land 4
3 Observations 6
4 Conclusion 6
5 Recommendation 7
Appendix A – Masonry Wall Detail 8
Appendix B – Site 10

1 Preliminary

1.1 Introduction

John Dryka acts on behalf of The Body Corporate, Strata Lot15461, being the registered proprietor of the residential development at 240 Burke Drive, Attadale commonly referred to as “Pelican Cove” (subject site).

John has prepared the following structural report outlining “observations” relating to the “failure” of the common masonry boundary wall, adjacent to Lot 568

1.2 Background

Inspection of an existing masonry boundary wall was undertaken on 29 October 2021, in the presence of Alex Guillaume (Builder) and Pelican Cove resident Dawn (Unit 55).

The common boundary wall (with Lot568) has exhibiting signs of displacement with “fractures” evident within the wall being clearly visible to the naked eye.

Refer to attached drawing outlining the wall in question in Appendix A.

2 Site

2.1 Land

The subject property is 240 Burke Drive, Attadale. The SW corner abuts Lot 568, being the Cove Indian Restaurant (568 Canning Highway, Attadale). The common boundary wall is the subject being investigated.

Retaining wall highlighted in image above at a length of 37m*, located underneath treetop canopy.

3 Observations

The masonry wall had been constructed on the common boundary between Lot 1 (Strata 15461) and Lot 568. The wall is of single brick construction with engaged piers at 2400mm centers for the entire length, being some 35m overall.

Construction is estimated to have occurred some 15 years ago.

The wall presents flush from within Lot 1, with engaged piers behind. A masonry build-up is evident from Lot 568 from ground level up to the adjoining ground level of lot 1.

This build-up varies in height, subject to the existing ground levels within lot 568. It can be assumed that this build-up acts in part as a retaining wall.

Existing ground levels along the boundary inside of lot 568 vary from heights from 600mm – 1000mm. **PHOTO F**.

Structural displacement (upwards) of 60mm is evident to the naked eye approximately mid-way along the common boundary (**POINT ONE**). Further inspection showed horizontal delamination of the wall mortar joint, followed by a vertical fracture of the brickwork at (**POINT TWO**).

It is further noted that upon inspection of the masonry wall on Lot 568, that an in-ground swimming pool was observed. The pool had been decommissioned; this may have had impact on the masonry wall due to the method of fill. However, this is unlikely.

4 Conclusion

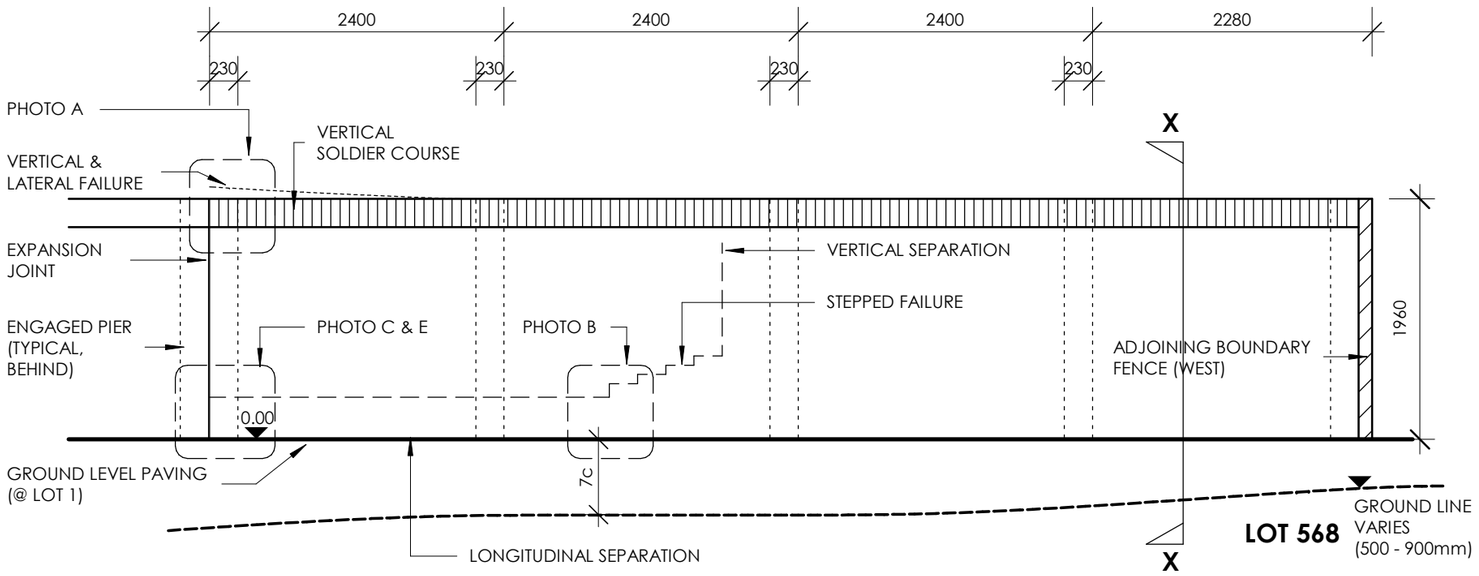
Lot 568 clearly shows a number of mature trees within 900mm along the common boundary. These trees vary in the order of some 550 -750mm in girt and approximately 20-30 meters in height. It can be concluded that these trees have contributed primarily to the structural failure of the common boundary masonry wall.

5 Recommendation

In the first instance it can be concluded that the large mature trees have contributed to the destabilization of the boundary masonry wall through the invasion of their (tree) root systems.

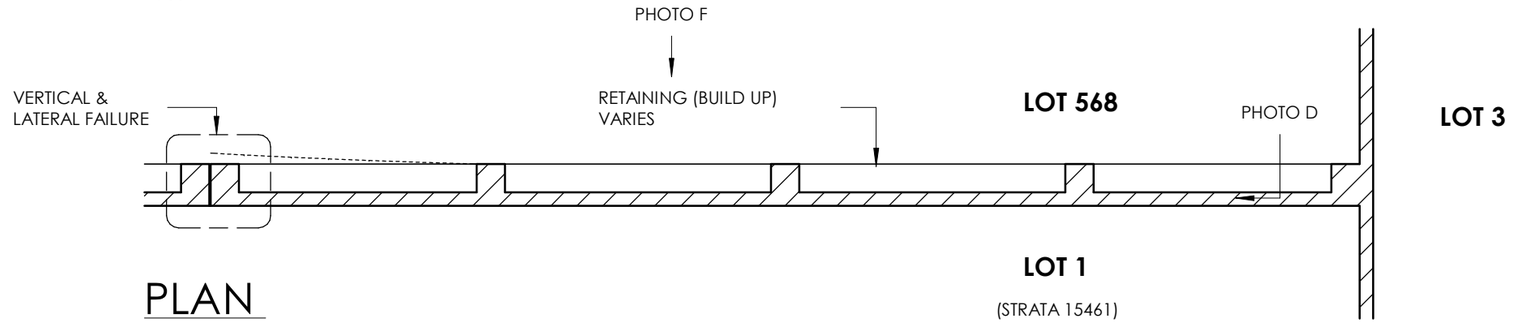
We are however of the opinion that the design of the masonry / retaining wall may require further investigated to determine whether the structural design of the wall and footings thereto ARE adequate and have NOT contributed nor are cause of the failure of the common boundary wall in the first instance.

Appendix A
Masonry Wall Detail



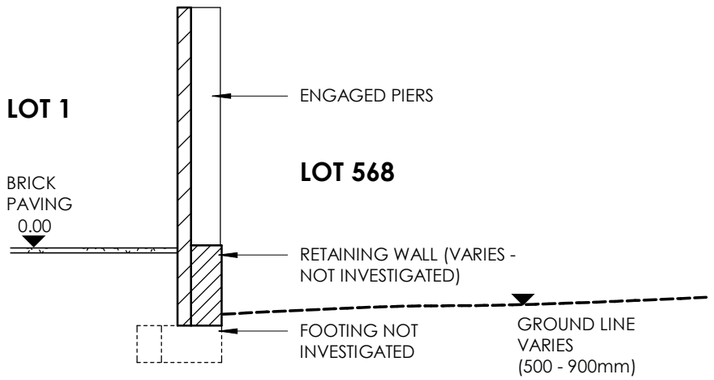
ELEVATION

SCALE: 1 : 50



PLAN

SCALE: 1 : 50



SECTION X-X

SCALE: 1 : 50

Note: All dimensions, levels and services to be verified by the builder and contractor/s before commencement of works. All boundaries to be confirmed by survey where necessary. All work to comply with relevant Australian Standards authorities. All structural work to Engineer's details where relevant. All drawings are copyright and not be be reproduced without permission.

PROJECT: BOUNDARY WALL INSPECTION

ADDRESS: 240 BURKE DRIVE, ATTADALE WA 6156

CLIENT: BODY CORPORATE STRATA PLAN 15461

Title: **Wall Details**		Dwg No.
Scale: 1 : 50	@ A3	**A1**
Drawn: AHL	Checked: MD	Rev.
Date: 17.11.21		

Rev	Description	Date

Appendix B
Site Photos

PHOTO A
Detail of vertical and lateral displacement at expansion joint of masonry wall

PHOTO B
Visible evidence of wall footing displacement and ‘failure’ of brickwork

PHOTO C
Detail photo of ‘stress fracture’ adjacent to expansion joint.

PHOTO D
East) View of boundary wall (looking East). Note engaged brick piers.

PHOTO E
Boundary wall as viewed from Lot 1 (Strata 15461). Note displaced expansion joint and stress fracture 3c above ground level.

PHOTO F
Wide angle view of common boundary wall. Note variation in ground level and height of brick build-up (retaining).

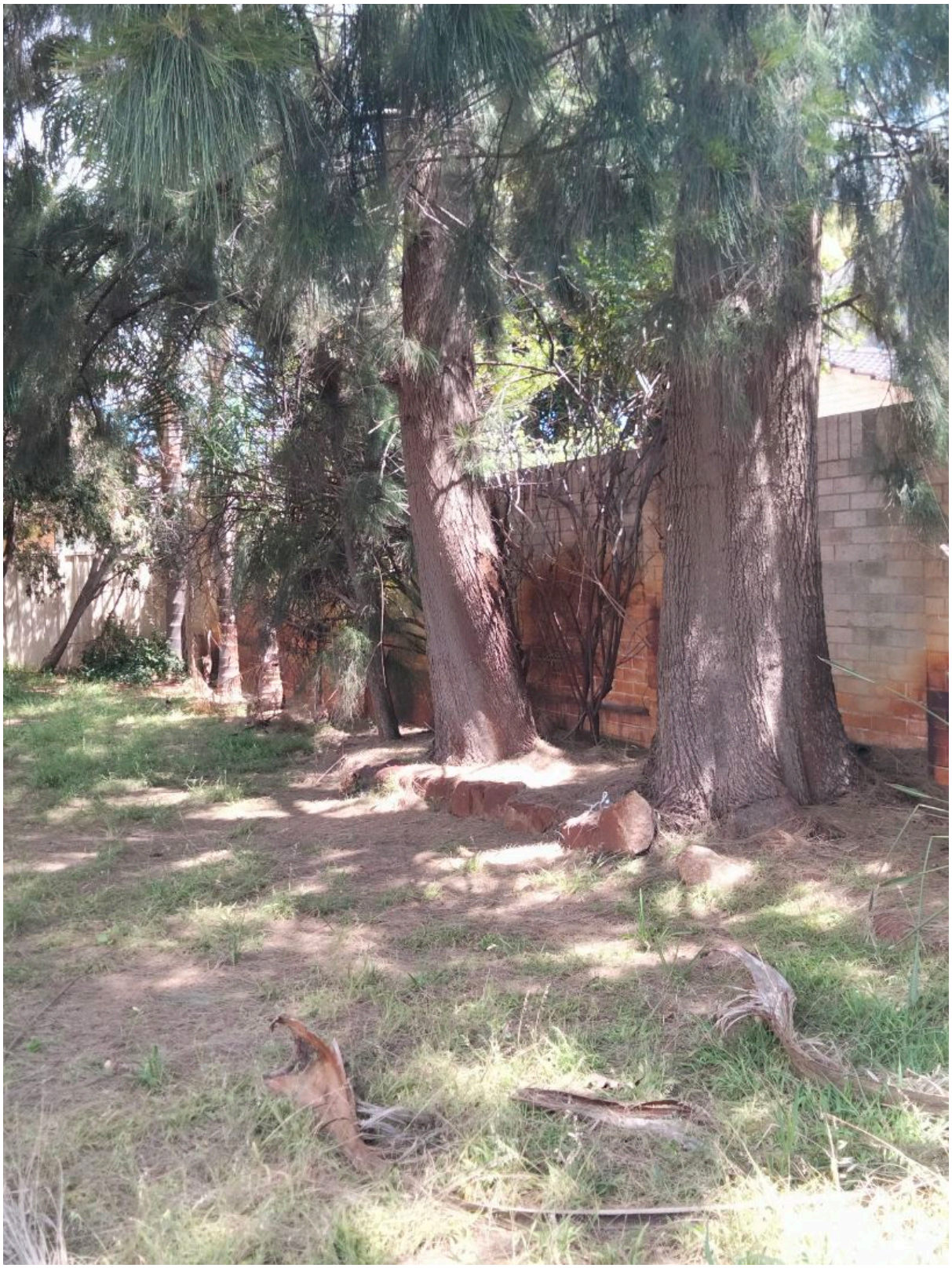


PHOTO G
Common masonry boundary wall in background. Existing mature trees evident on Lot 568 adjacent to boundary wall.

PHOTO H
Expansion joint as viewed from Lot 568. Note both vertical and lateral displacement.

PHOTO J
Note location of mature tree adjacent to expansion joint. Tree is approximately within 450mm from wall

PHOTO K
Brick build-up varies in accordance with existing ground levels within Lot 568. Note top of wall remains constant

PHOTO L
View of mature tree (Lot 568) and proximity to common masonry wall.

7. Appendix

NEW PLANT SCHEDULE				
KEY	BOTANIC NAME	MATURE HxW	INSTALLATION SIZE	NUMBER
T1	Eucalyptus Rudis	20m x 4m	30L	14
S1	Patersonia occidentalis	0.8m x 0.6m	18cm	4
S2	Westringia dampieri	1.5m x 1.0m	14cm	5
S3	Guichenotia ledifolia	1.5mx1.2m	14cm	7
S4	Eremophila "compact brice"	0.8mx1.5m	13cm	6

LEGEND:

1. CREAM CONCRETE
2. CRUSHED LIMESTONE
3. ARTIFICIAL LAWN / ASTRO TURF
4. MULCHING

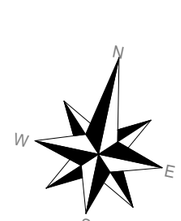
CLIENT:	**COOKIES AND CREAM**	VERSION:					
PROJECT:	**PROPOSED CHILDCARE CENTRE**	NO.	DATE	DESCRIPTION	DWN	CHK	
ADDRESS:	**568 CANNING HWY ATTADALE**	V1	15.11.22	DA PACKAGE	JT	JT	
COUNCIL:	**CITY OF MELVILLE**	V2	26.02.23	DA AMMENDMENT	JT	JT	
		V3	09.05.23	DA AMMENDMENT	JT	JT	
		V4	16.11.23	DA AMMENDMENT	JT	JT	

CLIENT: .....
DATE: .....
CLIENT: .....
DATE: .....
DRAWINGS SUBJECT TO SHIRE APPROVAL

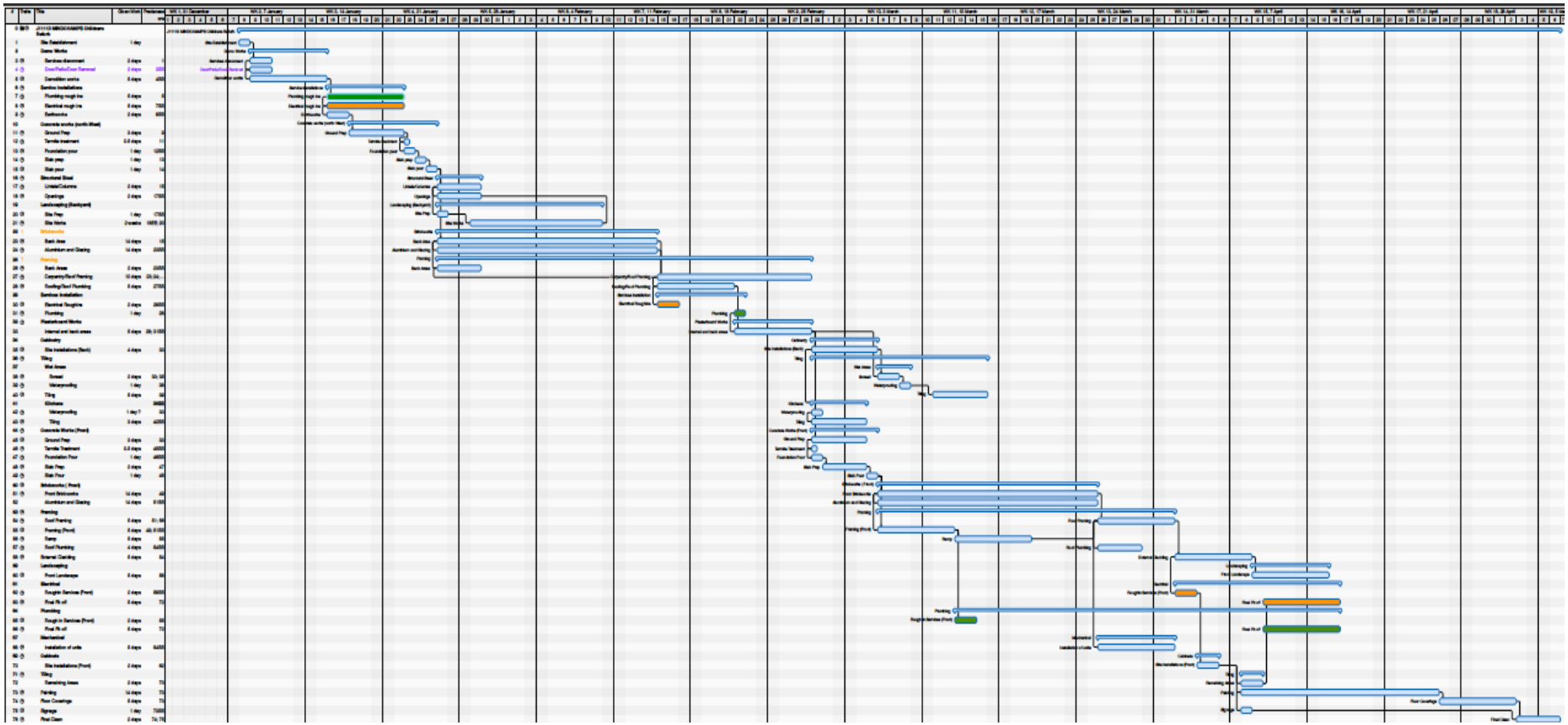
LANDSCAPING PLAN

CLIENT RELATIONS MANAGER: **JOSEPH THE**
PH: **0430 689 900** E-MAIL: **josephd.the@gmail.com**

DESIGNED BY: **JOSEPH T** | A2 | SCALE 1:200
PRINTED DATE: **30/01/2024** | SHEET NO: **12 OF 30**



APPENDIX A



APPENDIX B

568 CANNING HWY REFURBISHMENT						
No.	Date	Mode of complaint	Issue/complaint	ActionTaken	Complainant Name	Complainat Ph