





Appendix B1

Traffic and Access CEMP Sub-plan

M6 Stage 1

November 2021

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Document control

Approval and authorisation

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Endorsed by Environment Representative	Derek Low
Signed	8=
Dated	26/11/2021
Approved on behalf of TfNSW by	David Lehrbach
Signed	David Lehrbach
Dated	26/11/2021
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The document is uncontrolled when printed. One controlled hard copy of the CEMP and supporting documentation will be maintained by the Quality Manager at the Project office.

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Glossary / Abbreviations

Table 1: Table of common abbreviations used within this document

Abbreviation	Expanded text
СЕМР	Construction Environmental Management Plan
TAP	Traffic and Access CEMP Sub-plan (this plan)
CSSI	Critical State Significant Infrastructure
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMM	Environmental Management Measures
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999
EPL	Environmental Protection Licence
ER	Environmental Representative
EWMS	Environmental Work Method Statements
СоА	Minister's Conditions of Approval
OEH	Office of Environment and Heritage
PBS	Performance Based Standards is a national heavy vehicle scheme designed to offer the heavy vehicle industry the potential to achieve higher productivity and safety through innovative and optimised vehicle design.
Roads and Maritime	Roads and Maritime Services
ROL	Road Occupancy Licence
SIDRA	is a TfNSW accepted software application used to model traffic signal sites to identify timing and phase sequences for traffic signal sites.
SPECTS	Safety, Productivity & Environment Construction Transport Scheme is a voluntary Scheme designed to improve the safety, environmental performance and productivity of heavy vehicles used by the construction industry in NSW.
ТСР	Traffic Control Plan (superseded by TGS)
TfNSW	Transport for NSW

Abbreviation	Expanded text
TGS	Traffic Guidance Scheme (formerly TCP)
The Project	M6 Stage 1
TMC	Transport Management Centre
VMP	Vehicle Movement Plan
VMS	Variable message sign

1 Introduction

1.1 Context

This Traffic and Access CEMP Sub-Plan (TAP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the construction of the M6 Stage 1 (the Project). The TAP has been prepared to address the requirements of the Minister's Conditions of Approval (MCoA), the Environmental Management Measures (EMM) listed in the M6 Stage 1 Environmental Impact Statement (EIS) as amended by the Submissions and Preferred Infrastructure Report (PIR) and applicable legislation.

1.2 Background and project description

The Project comprises a new twin motorway tunnel (approximately four kilometres (km) in length) between the M8 Motorway at Arncliffe and President Avenue at Kogarah with a tunnel portal for entry and exit ramps connecting the tunnels to the surface (refer Figure 1). Works will include a connection to the M8 Motorway, line marking of additional travel lanes between the St Peters interchange to the M6 Stage 1 tunnels, an intersection with President Avenue (including widening and raising of President Avenue), and intersection improvements at the President Avenue/Princes Highway intersection. Mainline tunnel stubs would be constructed to allow for connections to future stages of the M6 Extension.

The Project was declared as Critical State Significant Infrastructure (CSSI) and was approved by the Minister for Planning and Public Spaces on 18 December 2019.

Key features of the Project include:

- Mainline tunnels approximately 3.0km in length, sized for three lanes of traffic and line marked for two lanes on opening of the motorway;
- Entry and exit ramp tunnels approximately 1.5km in length and a tunnel portal connecting the tunnels to a surface intersection with President Avenue;
- Provision of a new intersection at President Avenue including the widening and raising of President Avenue at this location;
- Upgrade of the President Avenue and Princes Highway intersection to improve capacity and network integration;
- Provision of a new shared cycle and pedestrian pathways;
- Mainline tunnel stubs for a future connection to extend the Project to the south;
- Two motorway operation complexes (MOCs) as follows:
 - Arncliffe: including mechanical and electrical fit-out of the ventilation facility built by the New M5 Motorway project, and provision of a new water treatment plant and substation.
 - Rockdale (south): including a ventilation building, Disaster Recover Site (DRS), substation and power supply, deluge tanks.
- A tunnel ventilation system, including ventilation facilities located at Marsh Street, Arncliffe and West Botany Street, Rockdale, and in-tunnel ventilation systems (jet fans and ventilation ducts);
- New Utility Services, and modifications and connections to existing Utility Services;
- A permanent power supply connection to the Rockdale Ventilation Facility Site MOC from Ausgrid's Canterbury Sub-Transmission Substation;
- Emergency access and evacuation facilities, including pedestrian and vehicular cross, long passages, fire and safety systems;

- Ancillary infrastructure for motorway operations including operations management and control systems, permanent power supply, communications, lighting, electronic toll collection system, toll gantries and traffic control and signage (both fixed and variable signage);
- Drainage infrastructure to collect surface water and groundwater inflows for treatment;
- Reinstatement of Bicentennial Park and recreation facilities;
- Reinstatement and rehabilitation of construction leased areas within the Arncliffe Site;
- Minor adjustments to local roads in the Project area;
- Development and implementation of systems integration and operating procedures with WestConnex Motorways to ensure safe operation of the interfaces between the Project and the WestConnex Motorways; and
- Any other works as required to complete the Project within the scope of the Environmental Impact Statement (EIS), Preferred Infrastructure Report (PIR), Submissions report (including EMMs) and CoA requirements.

The following six surface compounds will facilitate construction of the Project:

- Arncliffe construction ancillary facility (C1), an existing construction site which was used for the construction of the M8 Motorway;
- Rockdale construction ancillary facility (C2), within an existing TfNSW depot;
- President Avenue construction ancillary facility (C3) at Rockdale, within Rockdale Bicentennial Park and an industrial area west of West Botany Street;
- Construction ancillary facilities (C4 and C5) near Muddy Creek to support construction of the Active Transport Corridor; and
- Princes Highway construction ancillary facility (C6) on the corner of Princes Highway and President Avenue, Kogarah to support the intersection surface works.

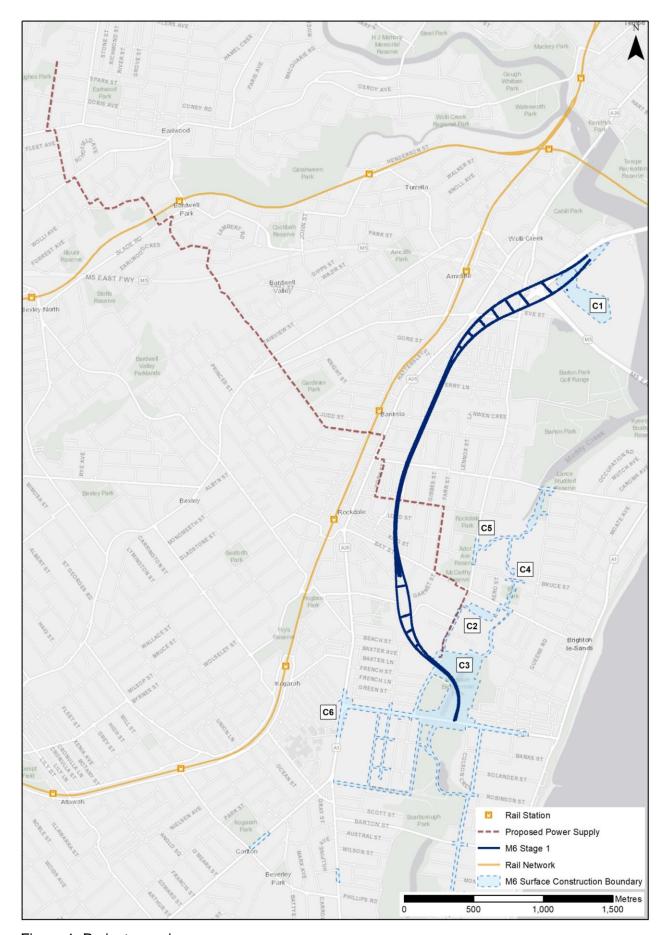


Figure 1: Project overview

1.3 Scope of the Traffic and Access CEMP Sub-plan

The scope of this Traffic and Access CEMP Sub-plan is to describe how the CPB Contractors, Ghella, UGL Engineering (CGU) joint venture proposes to manage traffic and access impacts during construction of the Project. Operational impacts and management measures do not fall within the scope of the TAMP and are therefore not included.

1.4 Environmental management systems overview

The environmental management system is based on the CPB Contractors Environmental Management System (EMS). An overview of the EMS is described in Section 1.5 of the overarching CEMP.

It is noted that Construction will not commence until the CEMP and all relevant CEMP Sub-plans for such construction activities to which they apply have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER, will be implemented for the duration of construction. Where construction is staged, construction of a stage will not commence until the relevant CEMP and CEMP Sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.

1.5 Consultation for preparation of the Traffic and Access CEMP Subplan

The Traffic and Access CEMP Sub-plan has been prepared in consultation with Bayside Council, Canterbury Bankstown Council and Georges River Council. Key matters raised by the stakeholders during this process are featured in Table 1. These matters have subsequently been considered in this document.

Table 1 Summary of consultation

Relevant Public Authority	Query	Action		
Colin Mable - Executive Engineer	Queried the impacts of the construction works on traffic on the Princes Highway and	The proposed lane configurations and addition of lanes will maintain the current capacity of the Princes Highway and President Avenue.		
Bayside Council	President Avenue and surrounding streets and suburbs	CGU and the Project's Traffic Management Office (TMO) will work closely with TMC for the duration of the construction works to continuously identify and address any potential issues that may arise and will maintain access to St George Hospital		
Bayside Council	Queried the potential of trucks queuing on local street	Confirmed the use of GPS that will monitor truck movements in real time will prevent trucks queuing on local street		
Bayside Council	Query regarding alternate parking arrangements	Parking arrangements will be included in the Construction Parking and Access Strategy required by the planning approval (CoA E13). The strategy for this section is currently in development (noting the initial issue focussed around the west botany street area with the site establishment impacts. Councils comments are noted and will be considered through the		

Relevant Public Authority	Query	Action
		development of this Plan (council will be consulted on this further)
Bayside Council	Maintaining Local Bus Services in the area that will be impacted by the works	The project aims to minimise impacts on bus routes and services (including bus stops). Details on impacts to bus stops and bus services will be included within the site specific Construction Traffic Management Plans that will be developed (in further consultation with the council, TMC and bus operators) over the life of the project.
Canterbury Bankstown Council	Queried if there is any specific reference in the TAMP to the power supply element of the project	Site specific Construction Traffic Management Plans for the permanent power supply (PPS) works will be available for Council's review and input following detailed design and construction planning. This more detailed plan will be specific to the PPS works and will be developed based on the principles and requirements in the Traffic and Access CEMP Sub-plan. We will also consult on this specific plan with Council (and SCO, TfNSW emergency services etc).

Georges River Council did not have any comments regarding this Plan.

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how the CGU proposes safely to manage vehicular, cyclists and pedestrian traffic during construction and minimise any disruption during construction of the Project.

2.2 Objectives

Key objectives of the Traffic and Access CEMP Sub-plan are to ensure all CoA, EMM and licence/permit requirements relevant to traffic and access are described, scheduled and assigned responsibility as outlined in:

- The Environmental Assessment prepared for M6 Stage 1 Project, including the EIS, the Response to Submissions on the EIS, the PIR and Response to Submissions on the PIR;
- Infrastructure Approval CoA (SSI 8931);
- TfNSW specifications G36, G38 and G40;
- The Project Environment Protection Licence (EPL); and
- All other relevant legislation and other requirements included in Appendix A1 of the CEMP.

2.3 Performance Outcomes and Targets

The key target of the TAP is to ensure that traffic impacts during construction are minimised and are within the scope permitted by the planning approval. This includes minimising delays, ensuring consideration is given to the needs of all road users and maintaining safety for both workers and the general public.

In addition to these targets, desired performance outcomes from Chapter 24 of the EIS (refer to Table 2) are addressed in this Sub-plan.

Table 2 TAP performance outcomes

Desired performance outcomes	Project outcome	TAP Reference
Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts. The	The performance of the local traffic network would not be significantly impacted during construction	Sections 4 and 5
safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed.	Access to properties will generally be maintained during construction	Section 5
Works are compatible with existing infrastructure and future transport corridors.	With the project, overall network productivity is improved, with longer or more trips able to take place in less time.	NA for the construction phase of works

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

Identified regulatory requirements are:

- An approved and valid Road Occupancy Licence (ROL);
- An approved relevant Speed Zone Authorisation (SZA);
- Australian Road Rules form the basis for state and territory road rules; and
- Roads Act 1993 (NSW) sets out rights along a public road, establishes procedures for a public road and provides the classification of roads.
- Heavy Vehicle National Act 2013 and Regulation 2013 (NSW)
- Heavy Vehicle (Adoption of National Law) Act 2013 (NSW)
- Heavy Vehicle (Adoption of National Law) Regulation 2013 (NSW)
- Dangerous Goods (Road and Rail Transport) Act 2008,
- Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998; and
- Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission 2008).
- Dangerous Goods (Road and Rail Transport) Regulation 2014.
- Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.7 (National Transport Commission 2020).

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

3.1.2 Guidelines

Guidelines, specifications and policy documents relevant to this Plan include:

- AUSTROADS Cycling Aspects of Austroads Guides, 2017;
- AUSTROADS Guide to Traffic Management, 2020 Parts 1-13
- AUSTROADS Guide to Road Design, 2013-2021 Parts 1-7
- AUSTROADS Guide to Road Safety, 2019-2021 Parts 1-7
- Roads & Traffic Authority NSW Guide to Traffic Generating Developments, 2002 and further updates as provided
- Roads & Traffic Authority NSW Bicycle Guidelines Version 1.2, 2005;
- Roads and Maritime QA Specification G10 Traffic Management, 2020;
- Roads and Maritime NSW Speed Zoning Guidelines, 2011;
- Roads and Maritime Traffic Control at Worksites Manual, 2020; and
- Transport for NSW, NSW Sustainable Design Guidelines Version 4.0, 2017.

3.2 Ministers Conditions of Approval

MCoA relevant to this Plan are listed in Table 3. A cross-reference is included to indicate where the condition is addressed in this Plan or other Project management documents.

Table 3: MCoA relevant to TAP

CoA No.	Condi	Condition Requirements			Document reference
C4	CEMP Sub-plans must be prepared in consultation with the relevant government agency(s) and council(s) as identified for each CEMP Sub-plan in Table 4. Table 4: CEMP Sub-plan and relevant public authorities			Section 1.5	
		Required CEMP Sub- plan	Relevant government agencies and council(s) to be consulted for each CEMP Sub-plan		
	(a)	Traffic and Access	Relevant council(s)		
C5	(a) the	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in ConditionA1 as modified by these conditions will be achieved;			Section 2.3
C5	The CEMP Sub-plans must state how: (b) the mitigation measures identified in the documents listed in Condition A1 as modified by these conditions will be implemented;		Section 5 Section 6		

CoA No.	Condition Requirements	Document reference
C5	The CEMP Sub-plans must state how: (c) the relevant terms of this approval will be complied with; and	Section 1.3
C5	The CEMP Sub-plans must state how: (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.	Section 4 Section 6
C10	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month prior to the commencement of the construction activities to which they apply.	Section 1.4
C11	Any of the CEMP Sub-plans may be submitted to the Planning Secretary along with, or subsequent to, the submission of the CEMP .	This Plan
C12	Construction must not commence until the CEMP and all relevant CEMP Sub-plans for such construction activities to which they apply have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans , as approved by the Planning Secretary, including any minor amendments approved by the ER , must be implemented for the duration of construction. Where construction is staged, construction of a stage must not commence until the relevant CEMP and CEMP Sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	Section 1.4
A1	The CSSI must be carried out in accordance with the terms of this approval and generally in accordance with the description of the CSSI in the EIS, the Response to Submissions on the EIS, the PIR and Response to Submissions on the PIR.	Section 2.2

CoA No.	Condition Requirements	Document reference
A2	The CSSI must be carried out in accordance with all procedures, commitments, preventative actions, performance outcomes and mitigation measures set out in the documents identified in Condition A1 unless otherwise specified in, or required under, this approval.	Section 2.3
A41	All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle. Details of the project identification markings must be submitted to the Planning Secretary for approval prior to the heavy vehicles used for spoil haulage being utilised for the CSSI	Section 5.1.6
E117	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.	Section 5.5
E118	During construction, where bus stops are required to be temporarily closed or relocated, such closure must not occur until relocated bus stops are functioning, have similar capacity and amenity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with Transport for NSW and relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths and (where required) road crossing facilities must be provided to any relocated bus stops such that accessibility and safety standards are met.	Section 5.6
E119	Prior to the commencement of operation, all bus stops temporarily closed or relocated must be reinstated in a manner that provides equal or improved capacity, amenity and accessibility (including footpaths and road crossings) in consultation with Transport for NSW and relevant council(s).	Section 5.6

CoA No.	Condition Requirements	Document reference
E120	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 5.7
E121	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Section 5.7
E122	Access to and from the Rockdale construction ancillary facility (C2) by heavy vehicles must only be via West Botany Street, unless otherwise approved by the Planning Secretary.	Section 5.1.5
E123	Heavy vehicles used for spoil haulage associated with the CSSI are not permitted to use local roads within one (1) kilometre of works and construction ancillary facilities, unless approved by the Planning Secretary. This includes movements associated with circling ancillary facilities.	Section 5.1.6
E124	Notwithstanding Condition E123 , heavy vehicles used to haul spoil generated from works at the C4 construction ancillary facility are permitted to use Bruce Street and Moate Avenue but only during the hours of work specified in Condition E62 .	Section 5.1.6
E125	All requests under Condition E123 to the Planning Secretary for local road usage need to include a traffic, cyclist and pedestrian impact assessment. The traffic, cyclist and pedestrian impact assessment may be included in the Site Establishment Management Plan or Traffic and Transport and Access CEMP Sub-plan as relevant, or submitted as a stand-alone document, and must:	Section 5.1.6
	(a) include a swept path analysis;	
E125	(b) demonstrate that local road usage will not compromise the safety of the public and have minimal amenity impacts;	Section 5.1.6

CoA No.	Condition Requirements	Document reference
E125	(c) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	Section 5.1.6
E125	(d) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child care facilities during their peak times of operation.	Section 5.1.6
E126	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Section 5.1.6
	Note: Refer to Condition A41 in relation to vehicle identification.	
E127	Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council within three (3) weeks of completion of the survey and no later than one (1) month prior to the road being used by heavy vehicles associated with the CSSI.	Section 5.1.6
E128	If damage to roads occurs as a result of the CSSI, the Proponent must either (at the relevant road authority's discretion):	Section 5.1.6
	a) Compensate the relevant road authority for the damage so caused or	
E128	(b) Rectify the damage to restore the road to at least the condition it was in pre-works as identified in the Road Dilapidation Report(s)	Section 5.1.6
E129	Construction vehicles (including staff vehicles) associated with the CSSI must be managed to minimise parking, idling and queuing on public roads	Sections 5.1.4, 5.1.5, 5.1.6, 5.9.1 and Appendix C

CoA No.	Condition Requirements	Document reference
E130	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on-and off-street parking changes during construction of the CSSI. The Strategy must include, but not necessarily be limited to:	Section 5.1.5
	 a) Confirmation and timing of the removal of on- and off-street parking associated with construction (including during site establishment when access to off-street parking at construction ancillary facilities has yet to be established; 	
E130	b) Parking accumulation surveys (consistent with AustRoads requirements) of parking spaces to be removed to determine current demand during peak, off-peak, school drop off and pick up and weekend periods	Section 5.1.5
E130	c) Consultation with affected stakeholders including property occupants with driveway access along President Avenue between Civic Avenue and Princes Highway utilising existing on-and off-street parking stock which will be impacted as a result of construction and impacted by the introduction of temporary clearways on President Avenue	Section 5.1.5
E130	d) Review of the impacts of changes to on-and off-street parking stock taking into consideration outcomes of consultation with affected stakeholders	Section 5.1.5
E130	e) Identification of mitigation measures to manage impacts to stakeholders as a result of on-and off-street parking changes including but not necessarily limited to staged removal and replacement of parking and provision of alternative parking arrangements	Section 5.1.5
E130	f) Strategies to address shortfalls in car parking spaces at individual construction ancillary facilities and disincentivising construction personnel from parking on the street near work sites instead of further afield at a different construction ancillary facility where car spaces are available, including managed staff parking arrangements and working with relevant council(s) to introduce parking restrictions adjacent to work sites and compounds	Section 5.1.5
E130	g) Details of shuttle bus service(s) to transport the workers to site(s) and details of the shuttle bus service(s) including service timing and frequency	Section 5.1.5

CoA No.	Condition Requirements	Document reference
E130	h) Mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures	Section 5.1.5
E130	i) Provision of contingency measure should the results of mitigation or monitoring indicate implemented measures are ineffective and	Section 5.1.5
E130	j) Provision of reporting of monitoring results to the Planning Secretary and relevant council(s) at three (3) monthly intervals	Section 5.1.5
E130	The Construction Parking and Access Strategy must be submitted to the Planning Secretary for information prior to the commencement of any works that impact parking	Section 5.1.5
E131	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented prior to the disruption. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.	Sections 5.5 and 5.7
E132	The CSSI (including new or modified local roads, parking, on road pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guidelines	Refer to Design Management Plan

CoA No.	Condition Requirements	Document reference
E133	Independent Safety Audit(s) are to be undertaken by an appropriately qualified and experienced person during detailed design (audit of the plans) and prior to opening (preopening audit) to assess the safety performance of new or modified roads (road safety audit) parking, pedestrian and cycle infrastructure provided as part of the CSSI (including operational ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including AustRoads Guide to Traffic Management	Refer to Design Management Plan
	The audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use	

3.3 Environmental Management Measures

Relevant EMM are listed in Table 4. This includes reference to required outcomes, timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table 4: Environmental Management Measures

Ref #	Commitment	Timing	Document Reference
HS3	Transport of dangerous goods and hazardous substances will be conducted in accordance with relevant legislation and codes	Construction	Sections 3.1 and 5.1.6
TT1	A Construction Traffic and Access Management Plan (TAMP) will be prepared as part of the Construction Environmental Management Plan. The TAMP will detail processes to minimise delays and disruptions and identify and respond to changes in road safety as a result of project construction works. The TAMP will be prepared in accordance with applicable guidelines and relevant standards, guides and manuals.	Construction	Section 6.2
	The TAMP will:		
	Ensure all relevant stakeholders are considered during all stages of the project		
TT1	Provide safe routes for pedestrians and cyclists during construction	Construction	Section 5.5
TT1	Develop project staging plans in consultation with relevant traffic and transport stakeholders, which would include measures to manage impacts during special events (such as sporting events)	Construction	Sections 5.1.1 and 5.8 and Appendix A
TT1	Plan and stage works to minimise the need for road occupancy, where possible	Construction	Section 5.1
TT1	Minimise the number of changes to the road users' travel paths and, where changes are required, implement a high standard of traffic controls which effectively warn, inform and guide	Construction	Sections 5.1.1, 5.1.4 and 5.4
TT1	Comprehensively communicate changes in traffic conditions on roads or paths to emergency services, public transport operators, other road user groups and other affected stakeholders	Construction	Section 6.2

Ref #	Commitment	Timing	Document Reference
TT1	Identify measures to manage the movements of construction-related traffic to minimise traffic and access disruptions in the public road network	Construction	Section 5.1.4
TT1	 Minimise the use of local roads by the project's heavy vehicles and identify haulage routes 	Construction	Section 5.1.6
TT1	 Propose a car parking strategy for construction staff at the various worksites, prepared in consultation with local councils stakeholders associated with any facilities adjacent to the project site 	Construction	Section 5.1.5
TT1	Minimise the loss of on-road parking for local residents	Construction	Section 5.1.5
TT1	Stage the construction works on key parts of the network – such as Princes Highway, President Avenue and West Botany Street – to enable these key roads to continue to function with as minimal impact as possible.	Construction	Section 5.1.3 and Appendix A
TT2	Where required, changes in to bus stops will be undertaken in consultation with Transport for NSW and bus operators, with the community-notified of any potential changes in advance. Wayfinding signage will be provided directing commuters to-relocated bus stops. Footpaths will be provided to any relocated bus stops such that accessibility standards are met.	Construction	Section 5.6
TT3	During construction, work with the TMC to observe traffic flows and incidents from CCTV footage and where reasonable and feasible, modify sites and activities to address issues identified by TMC	Construction	Section 5.9.1
TT4	Spoil haulage vehicles will be managed to minimise movements in the AM and PM peak periods	Construction	Section 5.1.6
TT5	Minimise local road closures and maintain adequate property access to the road network. Property owners would be consulted and agree to any changes to access	Construction	Section 5.7
TT6	The movements of haulage vehicles accessing ancillary construction sites will be coordinated to minimise potential queuing and traffic and access disruptions in the local area	Construction	Sections 5.1.5, 5.1.6 and 5.9.1
TT7	Prior to impacting roads, a road dilapidation report will be prepared, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project	Prior to construction Construction	Section 5.1.6

4 Construction traffic impacts

Potential traffic, transport and access impacts resulting from the construction of the Project were assessed in the EIS and Section 8 of Appendix D (Technical working paper: Traffic and transport). The EIS identified that the construction of the Project is anticipated to have some impacts on the surrounding road network, public transport and active transport routes surrounding the construction sites.

The EIS modelling was based on spoil removal from tunnel construction during 2021, however, spoil removal will commence in January 2022. The modelling assumed that the M8 Motorway was operational and all changes to surface roads were completed.

CGU's compound vehicle numbers are equivalent to those identified in the EIS, as noted in Table 12, and therefore the modelling outputs provided in the EIS are still applicable. The intersection operational performance summary is provided in Figure 2, below.

	Witho	Without construction		With construction		
Intersection	Volume (PCU)	Ave Delay (sec)	LoS	Volume (PCU)	Ave Delay (sec)	Lo S
AM peak hour						
Princes Highway / Wickham Street/ Forest Road	4,370	>100	F	4,410	>100	F
Wickham Street / West Botany Street	4,060	43	D	4,180	40	С
West Botany Street / Marsh Street	4,190	22	В	4,330	27	В
Marsh Street / M5 Ramps	5,540	33	С	5,770	45	D
Marsh Street / Flora Street / C1 Access	4,560	13	Α	4,680	15	В
West Botany Street / Bestic Street	3,000	44	D	3,130	47	D
West Botany Street / Bay Street	3,270	78	F	3,400	>100	F
West Botany Street / President Avenue	3,480	31	С	3,530	31	С
PM peak hour						
Princes Highway / Wickham Street/ Forest Road	5,270	>100	F	5,320	>100	F
Wickham Street / West Botany Street	4,060	33	С	4,230	38	С
West Botany Street / Marsh Street	3,890	11	Α	4,070	12	Α
Marsh Street / M5 Ramps	4,400	38	С	4,660	43	D
Marsh Street / Flora Street / C1 Access	3,300	11	Α	3,420	14	Α
West Botany Street / Bestic Street	2,880	42	С	3,000	41	С
West Botany Street / Bay Street	3,140	75	F	3,310	100	F
West Botany Street / President Avenue	3,620	37	С	3,650	39	С

[^]Traffic volume rounded to nearest 10

Figure 2: Intersection operational performance summary in 2021 for the AM and PM peak hours from EIS (Table 8-22)

As further noted in the EIS, at least two eastbound and two westbound lanes and turn movements will be maintained on President Avenue.

Further SIDRA modelling was undertaken on the intersection of President Avenue and Princes Highway to ascertain the traffic configuration required for works at the intersection and along the Princes Highway, given the significant space constraints. This modelling showed that the intersection would need to be configured, as shown in section 4.2

4.1 Existing Princes Highway President Avenue intersection

On the Princes Highway, southbound carriageway, north of President Avenue, lane arrangements allow for three lanes southbound with the kerb side lane being a shared through and left turn lane. On President Avenue, the westbound median lane is dedicated as a right turn lane, with dual left turn lanes. Refer to Figure 3 below.



Figure 3: Existing intersection of Princes Highway and President Avenue

4.2 Proposed Princes Highway President Avenue intersection

To facilitate the works, it is proposed to change the intersection arrangements as follows:

• Princes Highway – southbound – change the existing shared through and left turn lane to a dedicated left turn lane only, as noted on Figure 4, below.

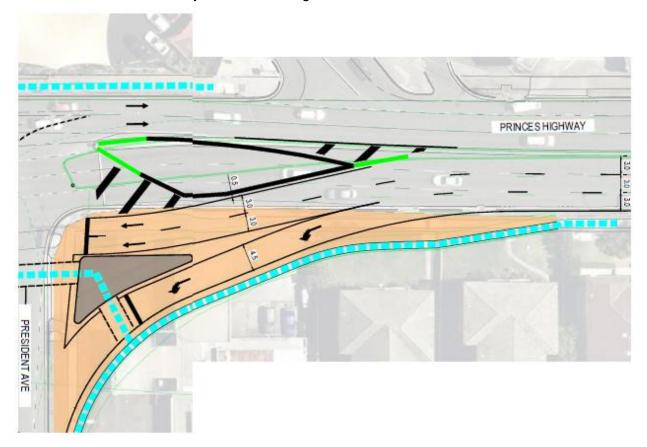


Figure 4: Princes Highway southbound change to left turn arrangements

 President Avenue – westbound – change the arrangements to allow a small right turn bay onto the Princes Highway and maintain dual left turn arrangements, as noted in Figure 5 below.

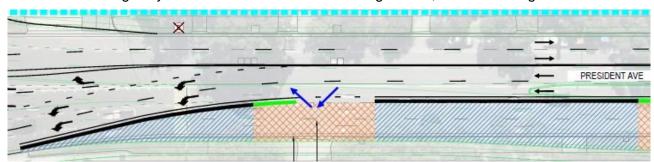


Figure 5: President Avenue change to right turn arrangements

Modelling of this proposed change will be developed and provided in the site specific Construction Traffic Management Plans.

4.3 Other impacts

As a result of the proposed staging for the surface works, impacts are further identified in Table 6 through to Table 11 inclusive. These impacts range from impacting existing property access,

affecting existing pedestrian and cyclist access and movements, the location and use of existing bus stops and/ or bus routes and the local traffic networks.

Details of impacts, both direct and cumulative will be provided in site specific Construction Traffic Management Plans which will be further developed based on the current staging of the works, as noted section 5 of this plan.

Cumulative impacts associated with the traffic and access management of are not anticipated during the construction of the Project. Where unexpected cumulative impacts are identified, they will be managed through compliance with relevant CoAs, coordination with external stakeholders, and implementation of EMMs related to key environmental impacts. The mechanism for identifying any potential unexpected cumulative impacts will be through monitoring, inspections, reporting and auditing.

5 Traffic Management

5.1 Construction stage traffic management

5.1.1 Construction staging

The traffic management methods that have been used to develop the traffic staging for the works include:

- Around the work site (elimination of the risk);
- Past the work site (isolation or engineering of the risk); and
- Through the work site (administration and PPE to manage the risk).

This section details the geographical locations and traffic staging requirements for:

- WestConnex Motorway;
- Surface Works including:
 - President Avenue O'Connell Street to West Botany Street Zone A
 - President Avenue West Botany Street to Princes Highway Zone B
 - Princes Highway Zone C
 - West Botany Street/ President Avenue shutdowns
 - President Avenue/ O'Connell Street shutdowns.

The timing of the works is provided in Table 5, below.

Table 5: Indicative timing of the works

Indicative Construction Staging and Operations Program				
Start End				
Stage 1 Preliminary Construction	October 2021	December 2021		
Stage 2 Construction	December 2021	November 2025		
Motorway Operations	August 2025	Ongoing		

5.1.2 WestConnex

CGU will carry out our works that minimises interference with the operation and use of the WestConnex Motorway by:

- Scheduling works in a way that minimises the impact on traffic
- Not closing or reducing the carriageway any lane or any ramps except to the extent permitted under the Deed
- Ensuring there are no planned lane closures during a peak period as nominated in the Deed
- Using our best endeavours to ensure there is no unplanned lane closures.

There are currently no planned long-term impacts on the operation of the WestConnex. All works will be undertaken during short-term traffic control including lane and carriageway closures.

5.1.3 Surface Works

Our traffic staging plans are provided in Appendix A and the detail of the staging is included in the following tables. These Staging Plans are indicative only and subject to approval from the Transport Management Centre (TMC) prior to construction. Where possible, staging of works is planned to minimise the need for road occupancy. The ongoing implementation, monitoring and review of the Staging Plans will be conducted by the Traffic Management Office (TMO).

At sites C2 and C3, due to the short duration of construction works Staging Reports are not required to be developed and the road will be restored to its previous arrangements until the signals are commissioned.

Table 6: Zone A proposed staging

Zone A - President Ave	enue between West Botany Street and Crawford Road				
Enabling Works					
Drawing #	NA - short-term works only				
Timing	Estimated 4-6 weeks				
Works	Median removal and reline marking of the east and westbound carriageways				
Motorists	Works done at night under short-term lane closures - no work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended				
Active Transport Users	Shared paths in Bicentennial Park closed for the duration of the Project				
Public Transport Operations	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended				
Property access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended				
Parking	N/A parking will not be affected				
ITS	Temporary signal posts on Princes Highway and changes to lane arrangements including barrier placement				
Construction access	Within short-term lane closures				
Other	NA				
Stage 1					
Drawing #	M6-CGUJV-DWG-TW-0001 to 0005				
Timing	Estimated 6-9 months				
Works	 Utility relocations and commissioning Relocate TCS (President Avenue/ West Botany St and President Avenue/ O'Connell Street) Clearing and grubbing Ground improvements Extending the existing culvert on the northern and southern sides of President Avenue Minor pavement works on the southern side of President Avenue including additional temporary pavement Temporary footpath connection between #137 President Avenue and Colson Crescent 				

Zone A - President Ave	enue between West Botany Street and Crawford Road
	Building demolition on President Avenue and O'Neill Street
Motorists	 Barriers placed adjacent to both carriageways Traffic shifted towards the centre on both carriageways O'Neill Street permanently closed at President Avenue with access available via Crawford Avenue Civic Avenue limited to left in/ left out only at President Avenue
Active Transport Users	 Pedestrians maintained on the northern side of President Avenue Pedestrian access on the southern side of President Avenue maintained between O'Connell Street and east of Colson Crescent. Pedestrian access provided to Colson Crescent from O'Connell Street Pedestrian access provided to Civic Avenue from West Botany Street intersection
Public Transport Operations	No impact to existing operations
Property access	Vehicle access to properties 137-151 President Avenue will not be available for approximately four weeks. Pedestrian access will be provided to these properties
Parking	Alternative parking for 137-151 President Avenue to be provided in Colson Crescent
ITS	Temporary TCS Plan required including temporary signal posts and lane rearrangements at the intersections of:
	 O'Connell Street and President Avenue West Botany Street and President Avenue
Construction access	Via President Avenue and O'Neill Street
Other	Discussions will be held with Bayside Council on waste disposal and recycling pick up with an option to provide affected properties a designated area in local side streets, for example Colson Crescent for residents affected by the works on President Avenue
Stage 2	
Drawing #	M6-CGUJV-DWG-TW-0007 to 0011
Timing	Estimated 8-12 months
Works	 New culvert works on the northern side of President Avenue Embankment fill on the northern side of President Avenue, including retaining wall Pavement construction (up to underside of wearing course) Drainage Kerb and gutter Pedestrian footpath Traffic control signals
Motorists	All carriageways moved onto the pavement completed in Stage 1 (south of existing carriageways)
Active Transport Users	 Northern footpath closed between O'Neill Street and West Botany Street Temporary path provided for access to bus stop

Zone A - President Avenue between West Botany Street and Crawford Road		
	Southern footpath open between O'Connell Street and Civic Avenue	
Public Transport Operations	Bus stop on the northern side of President Avenue (Stop ID: 221761) relocated south - can be moved to suit work area	
Property Access	Vehicle access to properties 144, 148 and 150 President Avenue will not be available for approximately four weeks. Pedestrian access will be provided to these properties	
Parking	Alternative parking for 144, 148 and 150 President Avenue to be provided in O'Neill Street	
ITS	Temporary TCS Plan required including temporary signal posts and vehicle detector loops	
Construction Access	Via President Avenue	
Other	Discussions will be held with Bayside Council on waste disposal and recycling pick up with an option to provide affected properties a designated area in local side streets, for example, O'Neill Street for residents affected by the works on President Avenue	
Stage 3		
Drawing #	M6-CGUJV-DWG-TW-0013 TO 0017	
Timing	Estimated 6-10 months	
Works	 New Culvert works on the southern side of President Avenue Embankment fill on the southern side of President Avenue Pavement construction (up to underside of wearing course) Drainage Kerb and gutter Pedestrian footpath Traffic control signals 	
Motorists	 All traffic moved onto the Stage 2 completed works Barriers placed either side of the temporary alignment Civic Avenue closed at President Avenue 	
Active Transport Users	 Footpath provided on the northern side of President Avenue between O'Connell Street and West Botany Street Footpaths on the southern side between O'Connell Street and Colson Crescent Civic Avenue to West Botany Street only 	
Public Transport Operations	Bus stop relocated back to permanent kerb on the northern side of President Avenue	
Property Access	Vehicle access to properties 137-151 President Avenue will be available via a dedicated access lane with egress provided onto President Avenue (location will move to suit work area)	
Parking	NA - parking will not be affected	
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement	

Zone A - President Avenue between West Botany Street and Crawford Road	
Construction Access	Via dedicated access lane with egress shared with residents of 137-151 President Avenue
Other	Waste and recycling vehicles will use the dedicated access lane for servicing properties 137-151 President Avenue
Stage 4	
Drawing #	M6-CGUJV-DWG-TW-0019 to 0023
Timing	Estimated 4-6 months
Works	 Median Island Five x 56 Hours Weekend Shutdown. President Avenue & West Botany Intersection construction Three x 56 Hours Weekend Shutdown. President Avenue & O'Connell Street Intersection construction Mill and resheet; O'Connell Street & President Avenue west of O'Connell Street
Motorists	 Eastbound carriageway remains on Stage 3 alignment Westbound carriageway is moved to the southern extent of works Civic Avenue left in/ left out at President Avenue
Active Transport Users	Both sides of President Avenue open for use
Public Transport Operations	As per existing
Property Access	NA – no impact to property access
Parking	NA - parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via President Avenue
Other	NA

Table 7: Zones A and B interface proposed staging

Zones A and B - President Avenue and West Botany Street utility and intersection works		
Enabling Works		
Drawing #	M6-CGUJV-DWG-TW-00327	
Timing	Estimated 4-6 weeks	
Works	Utility and civil works	
Motorists	 President Avenue westbound reduced to two through lanes through the West Botany Street intersection. All other movements retained on West Botany Street and President Avenue eastbound carriageway 	
Active Transport Users	All existing movements retained	

Zones A and B - President Avenue and West Botany Street utility and intersection works		
Public Transport Operations	NA – public transport will not be impacted	
Property access	Vehicle access to 57-63 President Avenue may be impacted. Pedestrian access will be maintained	
Parking	Alternative parking for 57, 59, 61 and 63 President Avenue to be provided	
ITS	Temporary signal posts on President Avenue and changes to lane arrangements including barrier placement	
Construction access	President Avenue westbound carriageway	

Table 8:Zone B proposed staging

Zone B - President Avenue		
Enabling Works		
Drawing #	NA - short-term works only	
Timing	Estimated 2-4 weeks for civil works	
	Extended duration for Utility works	
Works	Median removal, line marking and TCS temporary adjustments	
Motorists	Works done at night under short-term lane closures - no work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Active Transport Users	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Public Transport Operations	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Property access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Parking	N/A - parking will not be affected	
ITS	Refer to Princes Highway and Zone A staging for traffic signal arrangements required at West Botany Street and Princes Highway intersections with President Avenue	
Construction access	Within short-term lane closures	
Other	NA	
Stage 1	,	
Drawing #	M6-CGUJV-DWG-TW-0101 to 0103	
Timing	Estimated 15-20 weeks	
Works	Utility works	

Zone B - President Avenue		
Motorists	All traffic moved to the north and barriers placed adjacent to the westbound carriageway on the southern side of President Avenue	
	Local road closures will occur - Lachal Avenue, Traynor Avenue, Oakdale Avenue to allow the completion of utility works at their intersections with President Avenue.	
Active Transport Users	All paths will be open other than the path connecting the eastern most TAFE car park access to the Princes Highway. Access from the TAFE car park to other TAFE buildings will be via existing internal pedestrian connections	
Public Transport Operations	Bus stop will be closed on President Avenue (Stop ID: 221758 near Cross Lane). Nearest bus stop is approximately 230m east of this stop services route 947	
Property access	TAFE vehicle access maintained as per existing	
	Access provided to the service station located on the southern side of President Avenue through the work area	
	Vehicle access to properties on President Avenue between Traynor Avenue and west of Lachal Avenue will not be available during this stage of works.	
Parking	All parking along President Avenue (both northern and southern kerbside parking) will be removed between the Cross Lane and West Botany Street for the duration of the construction period.	
	Alternative parking for residents with off street parking will be provided in adjacent side streets during the works where access to their driveways is not possible	
ITS	Refer to Princes Highway and Zone A staging for traffic signal arrangements required at West Botany Street and Princes Highway intersections with President Avenue	
Construction access	Both approaches via President Avenue left in/ left out	
Other	Discussions will be held with Bayside Council on waste disposal and recycling pick up with an option to provide affected properties a designated area in local side streets, for example Lachal Avenue, Traynor Avenue, Oakdale Avenue and Moorefield Avenue for residents affected by the works on President Avenue	
Stage 2		
Drawing	M6-CGUJV-DWG-TW-0113 to 0115	
Timing	Estimated 12-14 weeks	
Works	Utility works	
Motorists	All traffic moved to the south	
Active Transport Users	The footpath on the southern side of President Avenue between the TAFE car park and Princes Highway will be reopened for use.	
	The northern footpath will be open for use.	

Zone B - President Ave	enue
	Where utility works are within the footpath or verge area along President Avenue, that footpath will be closed for the duration of the works with the opposite footpath available at all times
Public Transport Operations	Bus stop located west of West Botany Street (Stop ID: 221760) relocated to the kerbside lane
	Bus stop west of Cross Street (Stop ID: 221759) closed with alternative bus stop approximately 150m east/
	Bus stop located immediately east of Cross Lane (Stop ID221758) closed
	The westbound bus stop located outside of the fuel station will be relocated back to its previous location, adjacent to the westbound kerbside lane
Property Access	Vehicle access to properties on the northern side of President Avenue between Cross Lane and West Botany Street will not be available during this stage of works.
	Pedestrian access to properties will be maintained
	Vehicle access to President Avenue Fruit World will be from Greens Lane (subject to consultation)
Parking	Parking along President Avenue as per Stage 1 arrangements
	Alternative parking for affected properties that require vehicle access from President Avenue will be provided in adjacent side streets.
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via President Avenue left in/ left out
Stage 3	
Drawing #	M6-CGUJV-DWG-TW-0101 to 0103
Timing	Estimated 10-14 weeks
Works	Demolition and removal of existing pavement
	Pavement construction (to underside of wearing course)
	Drainage
	Kerb and gutter
	Pedestrian footpath
	Traffic control signals
Motorists	All traffic moved to the north and barriers placed adjacent to the westbound carriageway on the southern side of President Avenue
	Local road closures will occur - Lachal Avenue, Traynor Avenue, Oakdale Avenue to allow the completion of pavement works at their intersections with President Avenue.
Active Transport Users	All paths will be open other than the path connecting the eastern most TAFE car park access to the Princes Highway. Access from the TAFE

Zone B - President Avenue	
	car park to other TAFE buildings will be via existing internal pedestrian connections
Public Transport Operations	Bus stop will be closed on President Avenue (Stop ID: 221758 near Cross Lane). Nearest bus stop is approximately 230m east of this stop - services route 947
Property access	TAFE vehicle access maintained as per existing
	Access provided to the service station located on the southern side of President Avenue through the work area
	Vehicle access to properties on President Avenue between Traynor Avenue and west of Lachal Avenue will not be available during this stage of works.
Parking	All parking along President Avenue (both northern and southern kerbside parking) will be removed between the Cross Lane and West Botany Street for the duration of the construction period.
	Alternative parking for residents with off street parking will be provided in adjacent side streets during the works where access to their driveways is not possible
ITS	Refer to Princes Highway and Zone A staging for traffic signal arrangements required at West Botany Street and Princes Highway intersections with President Avenue
Construction access	Both approaches via President Avenue left in/ left out
Other	Discussions will be held with Bayside Council on waste disposal and recycling pick up with an option to provide affected properties a designated area in local side streets, for example Lachal Avenue, Traynor Avenue, Oakdale Avenue and Moorefield Avenue for residents affected by the works on President Avenue
Stage 4	
Drawing	M6-CGUJV-DWG-TW-0113 to 0115
Timing	Estimated 10-14 weeks
Works	Drainage
	Kerb & Gutter
	Pedestrian footpath
	Traffic Control signals
Motorists	All traffic moved to the south
Active Transport Users	The footpath on the southern side of President Avenue between the TAFE car park and Princes Highway will be reopened for use.
	The northern footpath will be open for use.
	Where works are within the footpath or verge area along President Avenue, that footpath will be closed for the duration of the works with the opposite footpath available at all times

Zone B - President Avenue	
Public Transport Operations	Bus stop located west of West Botany Street (Stop ID: 221760) relocated to the new eastbound kerbside lane
	Bus stop west of Cross Street (Stop ID: 221759) closed with alternative bus stop approximately 150m east/
	Bus stop located immediately east of Cross Lane No Stop ID) closed
	The westbound bus stop located outside of the fuel station will be relocated back to its previous location, adjacent to the westbound kerbside lane
Property Access	Vehicle access to properties on the northern side of President Avenue between Cross Lane and West Botany Street will not be available during this stage of works.
	Pedestrian access to properties will be maintained
	Vehicle access to President Avenue Fruit World will be from Greens Lane (subject to consultation)
Parking	Parking along President Avenue as per Stage 1 arrangements
	Alternative parking for affected properties that require vehicle access from President Avenue will be provided in adjacent side streets.
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via President Avenue left in/ left out
Stage 5	
Drawing	M6-CGUJV-DWG-TW-0116 to 0118
Timing	Estimated 2-6 weeks
Works	Median Island construction
	Traffic Control signals
Motorists	Westbound as per Stage2
	Eastbound as per Stage 1
Active Transport Users	As per Stage 2
Public Transport Operations	All bus stops open
Property Access	NA – property access will not be affected
Parking	As per Stage 1
ITS	Stage 1 arrangement for eastbound traffic- once barriers are removed final arrangement to be implemented
	Westbound - final arrangement
Construction Access	Via President Avenue left in/ left out

Table 9: Zone C proposed staging

Zone C - Princes Highway		
Enabling Works	Enabling Works	
Drawing #	NA - short-term works only	
Timing	Estimated 2-6 weeks	
Works	Median replacement with smaller median	
Motorists	Works done at night under short-term lane closures - No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Active Transport Users	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Public Transport Operations	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Property access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended	
Parking	N/A - parking will not be affected	
ITS	Temporary signal posts on Princes Highway and changes to lane arrangements including barrier placement	
Construction access	Within short-term lane closures	
Other	NA	
Stage 1		
Drawing #	M6-CGUJV-DWG-TW-0201 TO 0203	
Timing	Estimated 10-14 weeks	
Works	Pavement works on the eastern side of the Princes Highway southbound carriageway, north and south of the President Avenue intersection	
	Median and splitter island works on President Avenue to facilitate the Stage 2 traffic switch	
Motorists	Barriers placed adjacent to the southbound carriageways on the eastern side of the Princes Highway with southbound traffic laterally shifted to the west	
	No change to the existing northbound carriageway	
Active Transport Users	Pedestrians diverted through the TAFE site on the southern side of the intersection	
	Pedestrians managed through site on northern approach of intersection	
Public Transport Operations	Bus stop closed on Princes Highway (Stop ID:2217138). Nearest bus stop is approximately 90m south of this stop - services route 947	
Property access	TAFE access maintained as per existing	
Parking	NA - parking will not be affected	

Zone C - Princes Highway	
ITS	Temporary TCS Plan required including temporary signal posts, vehicle detector loops and relocated TCS cabinets
Construction access	Both approaches via President Avenue left in/ left out
Other	NA
Stage 2	
Drawing #	M6-CGUJV-DWG-TW-0205 TO 0208
Timing	Estimated 8-12 weeks
Works	Concrete pavement works
Motorists	Southbound traffic shifted onto the pavement completed in Stage 1 and reduced to two lanes southbound by dedicating the kerbside lane to left turn only onto President Avenue
	Northbound right turn lanes reduced to one and moved onto the existing southbound carriageway
	Northbound through movement retained on existing alignment
Active Transport Users	North of the intersection onto new path
	South of the intersection - as per Stage 1
Public Transport Operations	As per Stage 1
Property Access	NA – access to property will not be affected
Parking	NA - parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via Princes Highway
Other	NA
Stage 3	
Drawing #	M6-CGUJV-DWG-TW-0209 TO 0212
Timing	Estimated 8-12 weeks
Works	Concrete pavement works
Motorists	Southbound traffic as per Stage 2
	Northbound right turn lane reduction as per Stage 2 and shifted back onto the existing northbound carriageway
	Northbound through movement retained on existing alignment
Active Transport Users	As per Stage 2
Public Transport Operations	As per Stage 1
Property Access	NA – property access will not be affected

Zone C - Princes Highway	
Parking	NA - parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via Princes Highway northbound carriageway
Other	NA
Stage 4	
Drawing #	M6-CGUJV-DWG-TW-0213 TO 0216
Timing	Estimated 3-6 weeks
Works	Utilities crossing pavement replacement works
Motorists	Southbound through lanes moved to the west
	Northbound carriageway as per Stage 3 alignment
Active Transport Users	As per Stage 1
Public Transport Operations	As per Stage 1
Property Access	NA – property access will not be affected
Parking	NA – parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via Princes Highway northbound carriageway
Other	NA
Stage 5	
Drawing	M6-CGUJV-DWG-TW-0217 TO 0220
Timing	Estimated 3-6 weeks
Works	Utilities crossing pavement replacement works
Motorists	Northbound - shifted to the east with lane reduction as per Stage 2
	Southbound - shifted to the east
Active Transport Users	As per Stage 1
Public Transport Operations	As per Stage 1
Property Access	NA – property access will not be affected
Parking	NA – parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement
Construction Access	Via Princes Highway

Zone C - Princes Highway	
Stage 6	
Drawing	M6-CGUJV-DWG-TW-0221 TO 0224
Timing	Estimated 5-8 weeks
Works	Median Island installation, north and south of Intersection
Motorists	Northbound - shifted to the west with dual right turn lanes in operation
	Southbound - as per Stage 5 alignment
Active Transport Users	As per Stage 1
Public Transport Operations	As per Stage 1
Property Access	NA – property access will not be affected
Parking	NA – parking will not be affected
ITS	Temporary TCS Plan required including temporary signal posts, changes to vehicle detector loops and barrier placement

A number of weekend occupations are proposed to allow the works to be completed minimising our impact on the community by working day and night and thus removing the need for substantial night time occupations. The weekend occupations and works proposed, subject to TfNSW and EPL requirements, are identified in the following tables.

Table 10: President Avenue West Botany Street proposed weekend occupations

President Avenue/ West Botany Street intersection	
Stage 1	
Drawing #	M6-CGUJV-DWG-TW-0301 to 303
Timing	Weekend Shutdown 1 (56 hours)
Works	Demolish and remove existing road pavement
	Reconstruct new full depth pavement
Motorists	One lane southbound maintained on West Botany Street
	No left or right turns into West Botany Street from President Avenue
	Two lanes maintained on President Avenue in both directions
	Green Lane closed at West Botany Street
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue
	Pedestrian movements on the western side of West Botany Street
	Signalised pedestrian crossing maintained across President Avenue
Public Transport Operations	No bus stops affected

President Avenue/ Wes	st Botany Street intersection
Property access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access to 74 President Avenue managed through the closure
	Vehicle access to 467 West Botany Street not available during these works. Alternative parking to be provided
Parking	Parking removed on President Avenue during Zones A and B works
ITS	Traffic signals to remain operational
Construction access	West Botany Street southbound
Stage 2	
Drawing #	M6-CGUJV-DWG-TW-0304 to 306
Timing	Weekend Shutdown 2 (56 hours)
Works	Demolish and remove existing road pavement
	Reconstruct new full depth pavement
Motorists	One lane southbound maintained on West Botany Street
	No left or right turns into West Botany Street from President Avenue
	Two lanes maintained on President Avenue in both directions
	Green Lane left turn only onto West Botany Street
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue
	Pedestrian movements on the western side of West Botany Street
	Signalised pedestrian crossing maintained across President Avenue
Public Transport Operations	No bus stops affected
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access to 74 President Avenue not available during these works. Alternative parking to be provided
	Vehicle access to 467 West Botany Street managed through site
Parking	Parking removed on President Avenue during Zones A and B works
	Temporary parking permitted in left turn lane on President Avenue for 74 President Avenue
ITS	Traffic signals to remain operational
Construction access	West Botany Street southbound
Stage 3	
Drawing #	M6-CGUJV-DWG-TW-0307 to 309
Timing	Weekend Shutdown 3 (56 hours)
Works	Demolish and remove existing road pavement

President Avenue/ Wes	st Botany Street intersection
	Reconstruct new full depth pavement
Motorists	One lane southbound maintained on West Botany Street
	No left or right turns into West Botany Street from President Avenue
	Two lanes maintained on President Avenue in both directions
	Green Lane left turn only onto West Botany Street
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue
	Pedestrian movements on the western side of West Botany Street
	Signalised pedestrian crossing maintained across President Avenue
Public Transport Operations	Bus Stop ID 221760 (President Avenue eastbound prior to West Botany Street) closed for the duration of the works, nearest stop is 150m west of this stop.
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access to 74 President Avenue not available during these works. Alternative parking to be provided
	Vehicle access to 467 West Botany Street managed through site
Parking	Parking removed on President Avenue during Zones A and B works
	Temporary parking permitted in left turn lane on President Avenue for 74 President Avenue
ITS	Traffic signals to remain operational
Construction access	West Botany Street southbound
Stage 4	
Drawing #	M6-CGUJV-DWG-TW-0310 to 312
Timing	Weekend Shutdown 4 (56 hours)
Works	Demolish and remove existing road pavement
	Reconstruct new full depth pavement
Motorists	One lane southbound maintained and laterally shifted west on West Botany Street
	No left or right turns into West Botany Street from President Avenue
	Two lanes eastbound maintained on President Avenue
	One lane westbound on President Avenue
	Green Lane restricted to right turns only at West Botany Street
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue
	Pedestrian movements on the western side of West Botany Street
	Signalised pedestrian crossing maintained across President Avenue or managed under Police control

President Avenue/ Wes	st Botany Street intersection
Public Transport Operations	Bus Stop ID 221760 (President Avenue eastbound prior to West Botany Street) closed for the duration of the works, nearest stop is 150m west of this stop.
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access managed on site
Parking	Parking removed on President Avenue during Zones A and B works
ITS	Traffic signals to remain operational, however, Police control may be required
Construction access	President Avenue eastbound traffic lane
Stage 5	
Drawing #	M6-CGUJV-DWG-TW-0313 to 315
Timing	Weekend Shutdown 5 (56 hours)
Works	Demolish and remove existing road pavement
	Reconstruct new full depth pavement
Motorists	One lane southbound maintained and laterally shifted to the west on West Botany Street
	No left or right turns into West Botany Street from President Avenue
	Two lanes eastbound maintained on President Avenue
	One lane westbound on President Avenue
	Moorefield Avenue closed at President Avenue
	Civic Avenue closed at President Avenue
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue
	Pedestrian movements on the western side of West Botany Street
	Signalised pedestrian crossing maintained across President Avenue or managed under Police control
Public Transport Operations	Bus Stop ID 221760 (President Avenue eastbound prior to West Botany Street) closed for the duration of the works, nearest stop is 150m west of this stop.
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access to President Avenue not available during these works. Alternative parking to be provided
	Vehicle access to 467 West Botany Street managed through site
Parking	Parking removed on President Avenue during Zones A and B works
	Temporary parking permitted in kerb side lane on President Avenue for 57-63 President Avenue residents
ITS	Traffic signals to remain operational, however, Police control may be required

President Avenue/ West Botany Street intersection	
Construction access	President Avenue westbound traffic lane

Table 11: President Avenue O'Connell Street weekend occupation works

President Avenue/ O'Connell Street Intersection			
Stage 1			
Drawing #	M6-CGUJV-DWG-TW-0318 to 319		
Timing	Weekend Shutdown 1 (56 hours)		
Works	Demolish and remove existing road pavement		
	Reconstruct new full depth pavement		
Motorists	One lane westbound maintained on President Avenue		
	Two lanes eastbound maintained on President Avenue		
	No left or right turns into O'Connell Street from President Avenue		
	O'Connell Street closed at President Avenue with traffic detoured via Barton Street and Grand Parade		
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue		
	Pedestrian movements maintained on both sides of O'Connell Street		
	Signalised pedestrian crossing at Crawford Road to be used to cross President Avenue		
Public Transport	Bus stops on President Avenue maintained		
Operations	Bus stops on O'Connell Street closed between Barton Street and President Avenue (Stop ID: 221742; 221762; 221741; 221763; 221740; 221764; 221739; 221765; 221738; 221766; 221737 and 221767). Alternative bus stops to be provided on Barton Street and President Avenue and use of existing bus stops on Grand Parade (Stop ID: 221764; 2217147; 2217165; 221784).		
Property access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. No vehicle access to 145-151 President Avenue. Alternative parking to be provided		
Parking	Parking removed on President Avenue during Zones A and B works		
ITS	Traffic signals to remain operational, however, Police control may be required		
Construction access	President Avenue westbound		
Stage 2			
Drawing #	M6-CGUJV-DWG-TW-0321 to 322		
Timing	Weekend Shutdown 2 (56 hours)		
Works	Demolish and remove existing road pavement		

President Avenue/ O'C	onnell Street Intersection	
	Reconstruct new full depth pavement	
Motorists	One lane westbound maintained on President Avenue	
	Two lanes eastbound maintained on President Avenue	
	All movements into and from O'Connell Street maintained	
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue	
	Pedestrian movements maintained on both sides of O'Connell Street	
	Signalised pedestrian crossing at Crawford Road to be used to cross President Avenue	
Public Transport Operations	Bus stop on the eastbound carriageway removed or relocated for the works (Stop ID: 221761)	
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. No vehicle access to 146-158 President Avenue. Alternative parking to be provided	
Parking	Parking removed on President Avenue during Zones A and B works	
	Temporary parking permitted on President Avenue for 146-158 President Avenue	
ITS	Traffic signals to remain operational, however, Police control may be required	
Construction access	President Avenue eastbound	
Stage 3		
Drawing #	M6-CGUJV-DWG-TW-0324 to 325	
Timing	Weekend Shutdown 3 (56 hours)	
Works	Demolish and remove existing road pavement	
	Reconstruct new full depth pavement	
Motorists	One lane westbound maintained on President Avenue	
	Two lanes eastbound maintained on President Avenue	
	Left turn movements into and from O'Connell Street only. Right turn traffic to and from O'Connell Street detoured via Barton Street and Grand Parade	
Active Transport Users	Pedestrian movements maintained on both sides of President Avenue	
	Pedestrian movements maintained on both sides of O'Connell Street	
	Signalised pedestrian crossing at Crawford Road to be used to cross President Avenue	
Public Transport	Bus stops on President Avenue maintained	
Operations	Bus stops on O'Connell Street southbound closed between Barton Street and President Avenue (Stop ID: 221762; 221763; 221764; 221765; 221766 and 221767). Alternative bus stops to be provided on Barton	

President Avenue/ O'Connell Street Intersection			
	Street and President Avenue and use of existing bus stops on Grand Parade (Stop ID: 221747 and 221784).		
Property Access	No work requiring traffic control for longer than one work shift and where some form of traffic control remains when the site is left unattended. Vehicle access provided		
Parking	Parking removed on President Avenue during Zones A and B works		
ITS	Traffic signals to remain operational		
Construction access	President Avenue eastbound		

5.1.4 Construction site traffic management

Site specific Construction Traffic and Transport Management Plans (CTTMP) will be developed for work sites, construction support sites, intersection works and/ or where long-term changes occur to the road network. The CTTMPs will specify the road safety and traffic management measures to be applied while undertaking construction works to ensure pedestrian, cyclist and motorist safety. The management of the construction sites interface with the public may include the installation of barriers, temporary traffic signals etc.

The CTTMP will, be consistent with this plan and will include as a minimum:

- Work location maps defining the extent of the work zone
- Description of the works including work program ad expected start/ finish dates
- Existing and proposed speed limits and justification
- Existing and proposed lane widths and justification
- Design drawings including
 - Traffic staging plans
 - Design speeds and certification
 - Locations of barriers and crash cushions including identification of type to be used
 - o Existing and proposed wayfinding including identification of size, installation details
 - Approved traffic control signals and drawings
- Detail the impact on traffic, pedestrians, cyclists, property access, public transport, emergency services vehicle access, parking etc including:
 - Impact assessment and analysis during morning, afternoon, and inter peak times stipulating existing volumes, speed, queue lengths, travel times, delays and LoS and expected deterioration to these parameters due to work zones.
 - Appropriate modeling as needed.
- Public notifications and communications strategy, including a register of stakeholder consultation
- Road safety audits
- Strategies to minimise disruptions and an hour by hour works program of the works during traffic changes or under short term ROLs.
- All plans required to implement the works including Traffic Guidance Scheme(s), Vehicle Movement Plan(s), Pedestrian Management Plan(s), Parking Management Plans, detour plans, Variable Message Sign plans, local access plans, incident management plans, risk management plans and bus layover management plans as required for the works

The final site-specific CTTMP will be submitted at least 20 business days before the commencement of any activity which will affect traffic conditions on the construction site for endorsement and approval by CJP and TfNSW respectively. Where requests for further

clarification or information are provided the 20 business days will start from the date of the new submission.

Where works will impact on local council assets that involve a change to regulatory signposting or delineation, a TfNSW compliant local traffic committee traffic management plan (LTC-TMP) will be lodged with the relevant council. Councils affected by the works are Bayside and Georges River councils.

A Traffic Guidance Scheme (TGS) is a diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary, through a work site or temporary hazard. TGS where previously known as Traffic Control Plans (TCP). TGS will be developed and will be submitted where appropriate with the CTTMP or as standalone with ROL and Council permit submissions.

The TGS will be developed in accordance with:

- TfNSW G10 Specification
- TfNSW Traffic Control at Work Sites v6
- AS 1742.3 and
- AustRoads Guide to Temporary Traffic Management.

Vehicles involved in the works will only enter, operate within and exit in a manner which does not endanger the public and under suitably designed and appropriate traffic control measures. A site specific Vehicle Management Plan (VMP) for the worksites will be developed and included in the site specific CTTMP.

The Soil and Surface Water CEMP Sub-plan details site-specific measures to be implemented to ensure that we will minimise any impacts from construction mud, dirt or other materials on public roads and footpaths. Measures may include wheel-wash facilities, rumble grids, and ensuring that all loads are covered before leaving site. We will provide appropriate resources to respond to any spills that are due to our works. CGU JV will maintain roads around our sites that are impacted by our operations, including rectifying any damage to restore the roads to at least the condition they were in before we occupied the site.

To ensure that haulage vehicles are loaded appropriately, portable weighbridges will be installed within sites. Where we cannot physically install these due to space constraints, we will use calibrated load rites with trucks being picked randomly to be sent to a public weighbridge for load verification.

5.1.5 Site compound traffic management

All works associated with compounds will be undertaken at low traffic times. These works include installation of temporary traffic signals at West Botany Street/ C2 and West Botany Street/ C3.

Where works will impact on pedestrian movements, pedestrian management will be in place. This management may include the diversion of pedestrians or localised detours through the work site. where detours are proposed, appropriate and safe alternative routes and crossing points will be nominated.

There are a range of hazards for vehicles onsite, including rough surfaces, other larger plant and existing infrastructure. For each stage of works CGU JV will ensure that:

- Regular toolbox meetings discuss on site vehicle movements and changes to work areas
- Site plant is fitted with the appropriate safety systems including flashing yellow lights, nontonal reversing alarms, horns and two-way radios
- Access and egress points and tracks within the site are clearly defined and signposted
- Pedestrian paths and crossing points are clearly defined and signposted
- Warning signs or traffic controls are installed on the approach to hazards or conflict points and

Consideration being given to reducing on site speed limits

Site and project inductions will also include requirements for all project personnel and subcontractors to minimise parking, idling and queuing on public roads.

Table 12 provides details for each of the construction support sites including the expected heavy and light vehicle movements, which are based on those presented in the EIS. It is noted that the values provided would fluctuate depending on the works being undertaken and would not be consistent throughout the entire project. Increased traffic volumes will be required during peak periods of construction activity. Increased heavy vehicle numbers will be consistent with the approved project.

Where changes to heavy vehicle access/ egress is proposed at the C2 site, approval will be sought from the Planning Secretary.

Table 12: Site compounds and indicative daily traffic generation (two way)

ID	Location	Access/ egress	Traffic control	EIS Heavy	Proposed Heavy	EIS Light	Proposed Light
C1	Marsh Street	Marsh Street	Traffic Signals	276	270	336	330
C2	TfNSW depot	West Botany Street	Traffic Signals	274	150	352	120
С3	Bicentennial Park	West Botany Street	Traffic Signals	178	100	642	400
		President Avenue	Left in/ left out				
C4	Bruce Street	Bruce Street	Right in/ left out	26	20	88	20
C5	West Botany Street	West Botany Street	Left in/ left out	16	16	22	20
C6	Princes Highway	President Avenue	Left in/ left out	20	20	176	40

A Construction Parking and Access Strategy for site establishment will be submitted to the Planning Secretary for information before the commencement of any works that impact existing parking. This initial strategy will be further developed to incorporate the construction phase of the project. Once approved, the strategy will be implemented before impacting parking.

The Strategy will be in accordance with CoA E130 and will include when, where, how and duration of removal of on or off street parking. Surveys will be undertaken to ascertain the current demand for parking during peak and off peak times, school drop off and pickup, weekend periods and during special events, where COVID-19 restrictions allow. Where these surveys are not possible, other surveys will be developed to understand the impact of parking removal.

CGU will undertake consultation with affected stakeholders and an assessment of the impacts of changes to on- and off-street parking. Mitigation measures will be identified such as:

- staged removal and replacement of parking
- provision of alternative parking arrangements
- working with relevant council(s) to introduce parking restrictions adjacent to construction support sites or

identification of appropriate residential parking schemes.

The plan will detail mechanisms for monitoring the effectiveness of implemented mitigation measures and will include contingency measures where the results of the mitigation or monitoring measures are seen as ineffective. The results of the monitoring will be provided to the Planning Secretary and relevant council(s) at three monthly intervals.

5.1.6 Construction traffic routes

All routes will use the most direct connection from local roads to the closest arterial and motorway networks to minimise the impacts on local roads, including stakeholders who live and work near the sites. Heavy vehicles used for spoil haulage on the project will not use local roads within one (1) kilometre of works and construction ancillary facilities, unless approved by the Planning Secretary. The haul routes are provided in Appendix B of this Plan. The routes are based on the EIS routes contained within Chapter 8 of the EIS and Appendix D.1 of the SWTC – Additional Environmental Requirements. All routes nominated in Appendix B comply with both the EIS and Appendix D.1. It is noted that the route to C4 can only be used during standard construction hours.

As the project progresses, any proposed haul routes that are not shown in the EIS and that are required to use local roads, will be the subject of a Traffic, Cyclists and Pedestrian Impact Assessment (TCPIA) report which will be provided to the Planning Secretary for approval. This report will include:

- Swept path analysis
- demonstrate that the use of local roads by heavy vehicles will not compromise the safety of the public and have minimal amenity impacts
- Details as to the date of completion of the road dilapidation surveys
- Detail measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and childcare facilities during their peak operation times.

Road dilapidation surveys will be performed on public local roads before they are used for haulage operations. These surveys will include:

- Cracking and rutting surveys
- Road inventory.

The surveys will be provided to the relevant road authorities (relevant council(s) and TfNSW) within three weeks of completing the surveys and no later than one month before the use of local roads by heavy vehicles. If damage to roads occurs as a result of construction of the works, CGU will rectify the damage or pay compensation, as agreed by the relevant road authority. The road will be restored to at least the condition it was before construction commenced as identified in the survey or we will compensate the relevant road authority for the damage caused.

We will work with our subcontractors to reduce our heavy vehicle numbers, where reasonable and practicable, by using vehicles enrolled in the Safety, Productivity, Environment Construction Transport Scheme (SPECTS). This scheme is a voluntary system applied to eligible heavy vehicles on specified parts of the road network. SPECTS vehicles can transport increased loads.

Roads currently mapped for Safety, Productivity & Environment Construction Transport Scheme (SPECTS) use surrounding the Project are shown in Figure 6.



Figure 6 Performance Based Standards (PBS) vehicle access permit Routes

We will manage heavy vehicle movements to minimise impacts during peak periods, where practicable. The measures to be used to minimise our impacts include scheduling of vehicles and monitoring through GPS. We will also implement measures to control movements that have the potential to detrimentally impact pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasions, police presence.

All heavy vehicles used for spoil haulage will be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification. Details of the project identification markings will be submitted to the Planning Secretary for approval prior to being used for spoil haulage.

Heavy haulage trucks will be equipped with telematics (customised GPS tracking system) so that their movements are captured in real time. This enables monitoring of:

- Driver behaviour such as speeding or not using correct routes
- Haulage work efficiency including:

- Truck speed
- Loading and unloading times
- Management of fleet arrivals and departures during normal operations and unplanned events
- Ensuring that vehicles do not use local roads to circle ancillary facilities

This system, successfully implemented on past projects, serves as an early warning system and supports a flexible management approach to any changes in traffic conditions, potential incidents and traffic-related issues. The system will also assist with the management of fleet arrivals and departures during normal and unplanned events. The records from this system will be made available electronically to the Planning Secretary and the EPA, upon request. The records will be available for one year following the completion of the Project.

Geofencing will allow us to place cordons around areas and monitor the number of trucks entering and exiting an area. The Traffic Monitoring Office (TMO) will contain a screen showing the location of all trucks working for the project. Spoil trucks will receive a message through their GPS unit when to arrive at the site. This will ensure that trucks are not queueing on approaches to sites or using local roads around the compounds, other than at site C4 required to use Bruce Street and Moate Avenue for access/ egress to the arterial road system.

Our requirements for compliance with the Chain of Responsibility (COR) are detailed in the Chain of Responsibility Management Plan.

Drivers will need to meet project requirements to minimise impacts on the communities and environment near the worksites and along the approved routes. This includes the appropriate use of compression braking and minimising the need for truck idling, especially near sensitive receivers.

Drivers will receive a copy of the Code of Conduct (CoC) (refer to Appendix C) at the project induction and will be required to sign it to show that they have understood and will comply with its requirements. Short term or 'one off' drivers (eg delivery drivers) will be issued with the CoC and instructions including project requirements. Subcontractors will be responsible for ensuring all their drivers adhere to these requirements. Ongoing monitoring will be undertaken during project delivery and drivers found to be contravening the Code will be dismissed from the works and Heavy Vehicle Operators will be issued with non-compliance notices.

We will work with the relevant authorities to provide and facilitate Over Size and Over Mass (OSOM) vehicles when required. Our TGS' will be designed to accommodate the passage or over dimension vehicles through the works. Where this is not feasible, discussions will be held with TfNSW permits section to understand what OSOM movements are proposed over the targeted dates. All relevant permits will be gained prior to OSOM movements associated with the works.

Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the *Dangerous Goods (Road and Rail Transport) Act 2008*, *Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998*, the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission 2008), *Dangerous Goods (Road and Rail Transport) Regulation 2014* and *Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.7 (National Transport Commission 2020)*.

5.2 Road occupancy

A road occupancy consists of any activity likely to impact on the operational efficiency of the road network. A Road Occupancy Licence (ROL) authorises the occupation of a portion of the road that would normally be available to traffic. Except in the case of an unplanned incident, or when directed by the Police or other emergency services, a ROL must be obtained for any works which:

• Slows, stops or otherwise delays or affects the normal flow or traffic

- Diverts traffic from its normal course along the road, including lane closures and detours and
- Occupies any portion of the road related area, including the footpath that is normally available for vehicle, pedestrian or cycle movements.

CGU will obtain the relevant Road Occupancy Licences (ROL) from the Transport Management Centre (TMC). These licences will be obtained in advance of the works. The ROL will be lodged at the same time that the final submitted CTTMP is submitted for approval.

Electronic lodgment of the ROL will be undertaken using TfNSW's OpLinc system. ROL through the TMC will be applied for a minimum of 10 business days from site requirements. Longer lead times may be applicable for works involving significant traffic impacts such as road/carriageway closures or when works require road occupation outside of the normally permitted hours.

It is acknowledged that the TMC has traffic and transport safety and efficiency targets to ensure road users do not experience excessive delays. Maintaining the capacity of the road network is critical to maintaining safety. Roadway capacity assessment will be one of the tasks that will be undertaken by TMC, prior to granting ROL.

Council permits will be lodged in accordance with the Council timelines. Council permits are typically required for occupation of a council road or pathway or changes to council assets including parking removal.

5.3 Speed management

Temporary roadwork speed zones, both short and long term, will be implemented during construction to manage the speed of traffic approaching and passing through and/or past work sites. The speed zones will comply with Section 8.2 of the TfNSW Traffic Control at Work Sites (TCAWS) manual Issue 6 and the TfNSW NSW Speed Zoning Guidelines, Australian Standards 1742.3 and AustRoads Guide to Temporary Traffic Management.

CGU acknowledges that roadwork speed zones must be logical and credible, as well as enforceable. When considering the use of a roadwork speed zone, we will adopt the principles outlined in TfNSW's Traffic Control at Worksites Manual (v6):

- Not be used alone but with other traffic control signs and devices as dictated by and in response to the site specific conditions
- Not be used in place of more effective traffic controls but to complement such controls
- Only be used while road work is in progress or where lower standard road conditions exist, and
- Meet clearance and lane width requirements

It is proposed that the long-term speed limit on President Avenue will be 60km/hr for the duration of the works, refer to Table 12. The requirement for a reduced speed limit is based on Table 4-8 Selection criteria of roadwork speed zones contained within the TCAWS manual.

During short term traffic control the speed limit may be reduced to 40km/hr for each shift.

5.3.1 Speed Zone Authorisation

Speed Zone Authorisation (SZA) is required to be in place and will be applied for when applying for the associated ROL. A copy of this document will be maintained with the ROL, on site and kept within the TMO.

5.3.2 Speed limit approvals

For work undertaken on state roads, we will seek TfNSW's authorisation to install the speed limit and signs. for works undertaken on roads where councils are the delegated authority, we will seek the council's authority, as required under TCAWS. We will ensure that NSW Police Force are provided with advance warning of the speed limit reductions.

5.3.3 Speed limit signs

Road Work Speed signs will be Type B and will be duplicated on both sides of the road for any change in the posted speeds. The signs will be supported on two posts. Where space inhibits the duplication of signs on both sides of the road, speed signs will be installed at a maximum spacing of 300m to ensure that all motorists are aware of the change to the posted speed.

5.4 Signposting and delineation

Signs and lines are important to allow road users to navigate through the road and path network. They are an important part of providing for a safe and easily discernible path and are essential elements in traffic management control and road safety. All signs and lines used will conform to the AustRoads and TfNSW Guidelines and Australian Standards with sign faces to be approved by TfNSW. Signs for the construction period will be included in the site specific CTTMP.

Project identification signs, acknowledging government initiatives will be installed in accordance with TfNSW requirements.

Signs and lines are classified as shown in Table 13.

Table 13: Traffic Signs and lines

Signs and line	es can be classified in the following ways
Regulatory	Regulatory signs instruct road users on what they must do or must not do in a certain situation.
	 They are used to indicate or reinforce traffic laws. Regulation of requirements that apply all the time or at specified times or places.
	 Speed limit signs are a part of the regulatory signs and serve to limit the speed of traffic.
	 Pavement markings that are regulatory in nature include Bus Lanes, double barrier lines and turn arrows at intersections.
Warning	 These alert road users to possible hazards ahead. These hazards can be either temporary or permanent.
	 Hazard signs are typically black on yellow and include such signs as Road Work Ahead, curve signs etc.
	 Warning pavement markings are speed zone markings (other than school zones), pedestrian refuge islands and on the approach of marked foot crossings (zig zag lines).
Information	 Information signs inform road users of relevant information for their journey, such as destinations and distances, special road conditions, property access, bus stop closures and construction sites.
	 This classification also includes Project identification signs that will be installed to provide project details to the public and acknowledge the government's initiative through their funding programs. The project's identification signage location and design will be as approved by TfNSW.

5.4.1 Electronic Messaging

Trailer mounted portable Variable Message Signs (VMS) will also be used for the duration of our works. Vehicle mounted VMS will be included within our incident response vehicles. The VMS signs will have the capability of displaying up to four screens with three lines of eight characters. Remote communications will be possible through the TMO.

The TMO will have the ability to relocate the VMS within an hour of being notified. Damaged VMS boards will be replaced within four hours of notification.

At least one VMS will be installed on the approach to each road occupancy. This VMS will be in place at least one week prior to the proposed road occupancy and will display messages that are appropriate to the occupancy for the duration of the occupancy, where required by the conditions of the ROL.

Variable Speed Limit Signs (VSLS) will be installed and can be remotely changed under a preagreed incident response plan. To supplement speed signs, Radar Activated Speed Signs (RASS) will be installed to inform road users of the current speed limit in operation and their current speed. This is particularly useful during short term road occupancies where workers may be on the road.

5.5 Pedestrians and cyclists

Recognising the specific needs and behaviours of pedestrians and cyclists will be integral to the safe delivery of the works. Signage will be installed around worksites to alert pedestrians and cyclists of vehicle movements, where documented in the site specific CTTMP. This signage will be supplemented with VMS if necessary. Disruptions to access will be avoided, where reasonable and practicable.

Safe pedestrian and cyclist access will be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.

Any short-term path closures will be documented in TGS and permits/ ROL. Longer term changes will be detailed in the site specific CTTMP.

Nominated cycle routes around the sites have been identified. These are shown in Figure 7.

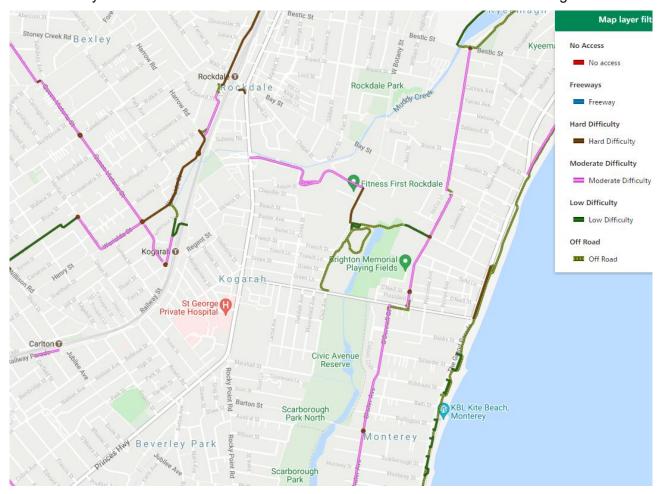


Figure 7: RMS Cycleway Finder (Cycleway Finder (nsw.gov.au)

5.6 Public transport

5.6.1 Bus customers and operators

The relocation of bus stops will be needed on President Avenue, Princes Highway and O'Connell Street to allow for safe separation between worksite and bus operations. Closure of bus stops will not occur until relocated bus stops are functioning, have similar capacity and amenity and are relocated within a 400 metres walking distance of the existing bus stop. Any changes to bus stops will be undertaken in consultation with the local council, TfNSW departments and bus operators. We will provide funding of personnel to manage changes on bus routes for a minimum of 2 days after each change to a bus route, or as otherwise agreed to by the bus operators and TfNSW. Footpaths and (where required) road crossing facilities will be provided to any relocated bus stops such that accessibility and safety standards are met.

Any bus stop relocations will be communicated to the public using the TfNSW standard template for bus notifications and we will install wayfinding to assist commuters, where required. All communication materials will be developed in line with the requirements of relevant authorities' and bus operators' and be in place in advance of and post the relocation works.

Where changes impact a large volume of school students who use a bus stop, additional information will be provided directly to the schools affected.

If bus services need to be rerouted during temporary road closures (partial or full) we will identify these impacts early so that liaison with relevant authorities and bus operators can begin. Consultation with bus service providers will be undertaken on all bus stop relocations or route changes.

At the conclusion of the construction period, all bus stops temporarily closed or relocated will be reinstated. These relocations will provide equal or improved capacity, amenity and accessibility (including footpaths and road crossings) as a minimum. These facilities will be designed in consultation with relevant council(s) and TfNSW.

5.7 Property and utility access

All reasonably practicable measures will be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of businesses and affected properties. Disruptions to access will be avoided, where reasonable and practicable. Where this is not possible, we will minimise our impact and provide alternative access and parking arrangements as close as practicable to the existing entry points and parking areas, in consultation and agreement with those directly affected prior to the disruption. We will also minimise local road closures. Adequate signage and directions to businesses will be provided prior to, and for the duration of any disruption. Any access affected by our works will be reinstated to the previous standard as a minimum, unless agreed otherwise by the owner or occupier.

We will maintain access to all utilities during our works, where practicable, unless we have agreement from the relevant utility owner/maintenance provider. We will provide weekly updates to utility providers. Emergency services will be regularly consulted and informed of our works schedule and program and will be provided with weekly updates on any closures that could impact their services.

Identified property impacts are described in Table 6 - Table 11 in Section 5.1.1 of this Plan.

5.8 Special events

When planning the works, CGU will identify special events which directly impact our worksites and/or haulage activities. We will also identify areas of work that may impact on special events to allow us to plan activities to minimise any disruption. Special events will be included within the site specific CTTMPs. Special events will be discussed at the specific traffic meetings to ensure that the special events diary can be regularly updated.

We have incorporated known Class 1 and Class 2 events into our construction program and will review these monthly for any new or changed requirements. We will also continue to interrogate event websites that provide details on up and coming events such as:

NSW and Sydney Events - Destination NSW

NSW Events & Festivals | Official NSW Tourism Website (visitnsw.com)

Georges River Council What's On

Bayside Council Events

We will work closely with the relevant road authorities and explore opportunities to undertake works in low traffic times, especially over holiday periods such as:

- Easter
- School holidays
- June and October long weekends

A listing of known special events are included in Appendix D.

5.9 Incident management and response

It has been identified that there are three incident classifications:

Minor – Requiring minimum human resources to safely clear the incident and return to normal conditions

Moderate – Requiring a combination of resources and/or plant and equipment to clear the incident.

Major – The incident needs to be managed by Police and/or Emergency Services and reported through 000. The initial response can be activated by CGU until Emergency Services attend and take command of the incident site.

We will be responsible for the management of minor and moderate unplanned incidents along the defined road network. We will provide the initial response to major unplanned incidents and emergencies along the defined road network until an emergency services agency and/or Transport Management Centre (TMC) patrols arrive on the scene. CGU will provide assistance to motorists and assist in the clearance of the road to minimise impacts on the road/path networks.

It is understood that TfNSW will retain their responsibility for the control and management of responses to major incidents on the road network and traffic systems. CGU will provide an incident management and response capability to effectively manage minor incidents on the road network affected by the works.

5.9.1 Traffic Monitoring Office (TMO)

A TMO will be in operation prior to the commencement of construction works, which will impact the road network. This TMO will operate 24 hours per day, 7 days per week for the duration of our works. The TMO will be used to monitor the operations of the road network, ROL conditions, including compliance with the imposed conditions and truck movements.

The TMO will have:

- A minimum of four Closed Circuit Television (CCTV) colour monitors
- A plan of the construction site and the road network in sufficient detail that will identify:
- Construction site entry and departure points
- All roads in and surrounding the road network
- Traffic management infrastructure, including variable message signs and CCTV locations.

Remote control of portable VMS with the ability to change messages instantaneously

CCTV will be installed at all entry and exit points from the site that interface with the state road network and at all locations where devices (automated or static) which facilitate tidal flow operations.

The TMO will be connected to the Transport Management Centre via 4G as agreed with TMC and all devices available to TMO will be available via this connection.

We will work with TMC to observe traffic flows and incidents from CCTV footage and where reasonable and feasible, we will modify our sites and activities to address issues identified by TMC.

Where a traffic accident occurs on the road network a report detailing the accident, including photographs of the incident site (including all devices and signs) will be provided to TfNSW.

5.9.2 Road Network and Incident Management

Our incident management strategy is based on the following principles:

- Incident detection
- Incident verification
- Incident response
- Monitoring of the road network
- Incident recovery
- Incident review (post-recovery).

We will provide and operate the necessary infrastructure, services, resources and systems to monitor, manage and control traffic flow on the affected roads for the duration of our activities. This management will also include the management of traffic incidents.

5.9.3 Traffic Incident Management Plan

We will develop a Traffic Incident Management Plan (TIMP) in consultation with, and to the satisfaction of TfNSW including CJP and TMC and this plan will be provided prior to the commencement of construction. This TIMP will identify the minor incidents that we will be responsible for, any infrastructure that is required to effectively manage the road network and Incident Response Procedures (IRP). The TIMP will be regularly reviewed including a review of the effectiveness of the responses and recommend improvements to the IRPs.

The TIMP will detail the planning, process actions and responses to incidents and will provide the following elements:

- Written standard incident response procedures (IRP) for managing incidents and supporting each incident type
- Supplementary detail for each incident type describing additional measures to be undertaken, in the event of an incident being classified or escalated to major.

The IRPs will cover all the anticipated planned and unplanned minor incidents that could occur, with due recognition given to the type and nature of the incident, the time of day and the location on the road network. The IRP will address the immediate safety issues on carriageways in the area surrounding the incident.

Below is the first draft of IRP that will be developed.

Table 14: Incident Response Procedures

Plan no.	Incident description
IRP-01	Minor Motor Vehicle Accident

Plan no.	Incident description
IRP-02	Major Motor Vehicle Accident
IRP-03	Stationary or broken down vehicle in a trafficable lane
IRP 04	Construction material spillage in a trafficable lane
IRP-05	Stray animal
IRP-06	Slippery road/ pavement surface
IRP 07	Pavement failure in prescribed maintenance area
IRP 08	Significant traffic congestion as a result of Project Works, Temporary Works
IRP 09	Towing a vehicle
IRP 10	Civil unrest

The incident response crews will be available to undertake relevant real time operational road safety and monitoring during construction. The crews will be available 24 hours a day and will be managed by the TMO:

Incident Response Crews

The incident response crews (IRC) will consist of a two person team on a 24hr, 7 day roster. They will have the appropriate SafeWork NSW certifications to undertake their duties.

Each crew is likely to carry the following in a small truck which is equipped with type B flashing arrow unit, flashing / rotating beacons, reversing alarm and camera and UHF radios. The truck will be provided with the following equipment:

- Stop / Slow bats
- 700mm Traffic Cones (30 minimum)
- A selection of signs
- Dust Proof Tool Box
- Laminated TGS' in A3
- Barrier Boards and legs
- Tools shovels, brooms, etc.
- Small spill kit
- Digital Camera
- Fire extinguisher
- · Flow chart and contacts list
- Folder for documentation

Tow Truck resources

In addition to the IRC, CGU will execute contracts to provide towing services (provision of this contract service will require co-ordination with the TMC and Police).

6 Compliance management

Compliance with the applicable conditions (Table 3) and performance outcomes (Table 2) will be achieved through implementation of measures described in sections 5 and 6 of this Plan.

6.1 Roles and responsibilities

The CGU Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of construction traffic management are detailed below.

6.1.1 Construction personnel

The role, authority and responsibility of key personnel with respect to traffic management during Project construction works are shown in Table 15.

Table 15: Role, authority and responsibility of key personnel with respect to traffic

Role	Authority and responsibility	
Project Director	Managing the delivery of the works	
	Authority to direct personnel and/or Subcontractors to carry out actions to avoid or minimise unintended traffic impacts. Contractor's Representative.	
Construction Director	Manage construction in relation to traffic management for their work activity	
	Ensure compliance with this Plan, CTTMPs and procedures.	
Project Manager	Managing the delivery of the works including overseeing construction traffic management	
	Authority to direct personnel and/or Subcontractors to carry out actions to avoid or minimise unintended traffic impacts.	
Traffic Manager	Managing the traffic task for the project. Responsible for the operation of the Traffic Monitoring Office and field crews	
	Authority to direct personnel and/ or Subcontractors to carry out actions to avoid or minimise unintended traffic impacts	
Safety Manager	Ensure traffic management requirements are addressed in relevant safety documents	
	Collaborative incident management and reporting in the event of safety incidents with a potential to cause traffic impact.	
Environmental and Sustainability Manager	Ensure traffic management requirements are addressed in relevant environmental documents	
	Collaborative incident management and reporting in the event of environmental incidents with a potential to cause traffic impact.	
Workforce Development	Ensuring the provision of appropriate training in traffic management aspects for relevant project personnel in consultation with the Traffic and Transport Manager.	
Senior Stakeholder &	Assist the Construction Traffic Manager in consulting regulatory agencies	
Community Relations Manager	Notification of traffic impacts to road users.	
Spoil Manager	Responsible for ensuring compliance with designated haul routes and for the day-to-day operation of the spoil management task in conjunction with the Traffic Manager.	

Role	Authority and responsibility
Project engineers, site engineers and supervisors	Implement and monitor on-site traffic management and compliance measures across all sites including preparation and implementation of VMPs Regular site inspections.

6.1.2 Traffic personnel

The personnel that make up the traffic management team are detailed in the following tables:

Tueffic Manager	
Traffic Manager	
Authority	 Appointed by the Project Manager Authorised to produce any correspondence and documentation necessary for approvals and traffic management All correspondence and documentation that has legal, commercial or contractual impacts must be viewed and agreed upon by the Project Director Authorised to require all reasonable steps to be taken to achieve compliance
Role	 Accountable for traffic approvals and traffic performance for all Project Works. Including Temporary Works Will be allocated to the task on a full time basis until the date of Construction Completion.
Responsibility	 Arrange the preparation and implementation of Construction Traffic and Transport Management Plans (site specific) and Traffic Guidance Schemes (TGS) Responsible for implementation of ROL's Provide support to the Construction team to ensure documentation and compliance for all matters relating to traffic and transport management and systems compliance Coordinate the development and maintenance of the systems underpinning contractual documentation and approvals Act freely and independently to require all reasonable steps to be taken to avoid and minimise adverse traffic impacts and to stop the progress of the relevant part of the Works when any non-conformity with the traffic management requirements of the Deed is identified. Engage with traffic and transport stakeholders and support TFNSW's outcomes for the Works Support site Project Managers and the Community teams in planning to manage access for businesses community groups and residents if potentially disrupted by the Project Works and Temporary Works Provide ongoing support to Project Managers through regular communication and interface, ensuring knowledge capture Contactable at all times Provide weekly reports to the TCG on the operations of the Road Occupancy Licences
Lines of Communication	 Reports to the Project Manager – Roadworks Primary traffic and transport contact for construction traffic management and approvals
Minimum Skill Levels	 Must be experienced and competent in traffic engineering, management and operations including operational knowledge and an understanding of the SCATS traffic signal system and traffic modelling systems and techniques
Traffic Engineer	
Authority	 Appointed by the Traffic Manager Works with the TM to produce any correspondence and documentation necessary for approvals and traffic management Reports issued associated with compliance to the TM
Role	Accountable for liaison with construction teams on traffic issues.

Traffic Manager	
Responsibility	 Arrange the preparation and implementation of Construction Traffic and Transport Management Plans (site specific) and Traffic Guidance Schemes (TGS) Provide support to the TM to ensure documentation and compliance for all matters relating to traffic and transport management and systems compliance Ensure maintenance of the systems underpinning contractual documentation and approvals Engage with traffic and transport stakeholders and support TfNSW's outcomes for the Works Support site Project Managers and the Community teams in planning to manage access for businesses community groups and residents if potentially disrupted by the Project Works/ Temporary Works Provide ongoing support to Project Managers through regular communication and interface, ensuring knowledge capture Provide weekly reports to the TCG on the operations of the Road Occupancy Licences
Lines of Communication	 Reports to the Traffic Manager Agency contact for traffic matters
Minimum Skill Levels	 A recognised relevant qualification with recent relevant work experience in a traffic management position on large projects

Senior TMO Operator	
Authority	 Appointed by the Traffic Manager or Traffic Engineer in the TM absence Works with the TM and TE to produce any correspondence and documentation required for reporting Reports issued associated with compliance to the TM/ TE
Role	 Accountable for operation of the Traffic Monitoring Office and Incident Response Crews.
Responsibility	 Have a good working knowledge of the Traffic Incident Response Plan and local area Provide ongoing support to the TM/ TE through regular communications Rosters of the TMO operators and response crew
Lines of Communication	 Reports to the Traffic Manager Agency contact for the Transport Management Centre
Minimum Skill Levels	A recognised relevant qualification with recent relevant work experience in a traffic control room position

Traffic Monitoring Office Operator				
Authority	 Appointed by the Senior Traffic Monitoring Office Operator Implements the procedures associated with incident response plans and manage incident response resources Maintain logs of all incidents and report on attendance and outcomes. 			
Role	 Accountable for operation of the Traffic Monitoring Office and Incident Response Crews. 			
Responsibility	 Have a good working knowledge of the Traffic Incident Response Plan and local area Be available for shirt work to provide the coverage requirements of the TMO and additional hours if required for specific construction events Become familiar with the traffic area for which responsibility is held including alternate routes available Maintain open and effective communication with TMC and Emergency Services 			
Lines of Communication	Reports to the Senior Traffic Monitoring Office Operator			
Minimum Skill Levels	A recognised relevant qualification with recent relevant work experience in a traffic control room position			

Traffic Foreman	
Authority	 Appointed by the Traffic Manager Implements the procedures associated with incident response plans and manage incident response resources Works with the TM/ TE to ensure compliance with approved traffic plans in the field Reports issues associated with compliance to the TM/ TE/ STMOO
Role	Accountable for liaison with construction teams on traffic issues in the field
Responsibility	 Arrange the implementation of CTTMP and TGS Provide support to the TM/ TE to ensure documentation and compliance for all matters relating to traffic and transport management compliance Support Project Managers and community teams Provide ongoing support to site managers
Lines of Communication	Reports to the Traffic Manager
Minimum Skill Levels	Recent relevant work experience in a traffic management position

Incident Response Crews				
Authority	 Appointed by the Traffic Manager Works with the Traffic Foreman Reports issues directly to the Traffic Monitoring Office and operators Accountable for operation of the incident response and management 			
Responsibility	 Be available to receive regular briefings on the implementation of the CTTMP and IRP Be available to attend inductions and tool box talks Participate in the development of work procedures relating to Traffic Incident Response Plans Implement the work procedures in the field, always respecting the issue of employee, road user and public safety In conjunction with the Traffic Foreman ensure adequate resources are available and used to carry out works in accordance with the program Ensure that all resources necessary to deal with Traffic Incident Response issues are held or readily available Provide traffic management support services to the construction site managers, where required Periodic relief breaks for all traffic controllers under contract as required by TfNSW Traffic Control at Worksites and AustRoads Guidelines Undertake the reporting and auditing requirements of the TfNSW Traffic Control at Worksites Manual Respond and attached to unplanned incidents across the Project and report to TMOO Monitor the road network and log areas requiring maintenance with the TMO 			
Lines of Communication	Reports to the Traffic Foreman/ Traffic Monitoring Office			
Minimum Skill Levels	A recognised relevant TfNSW qualification with recent relevant work experience in a field crew environment			

6.1.3 Specialist consultants

Traffic control subcontractors

We will maintain a register of traffic controllers to be used on the Project, including the names of proposed traffic controllers, their traffic controllers' certificate numbers and expiry dates. Only TfNSW pre-qualified companies will be used.

Road safety auditors

Road safety auditors will be engaged to undertake road safety audits during development of site specific Construction Traffic and Transport Management Plans, after implementation at sites and at regular intervals during the construction program. The auditors will be recognised on the NSW Register of Road Safety Auditors. The audit team will include at least two auditors. They will review each site's operations, specifically the interface at access/egress locations with an emphasis on pedestrian, cyclist and public transport safety.

All road safety audits will be undertaken in accordance with the guidelines for Road Safety Audit Practices (RMS 2011) with reference to current practices outlined in Guide to Road Safety Part 6 Road Safety Audit (Austroads 2009).

Road safety audit reports will be provided to the relevant authorities within five working days of the audit, along with any corrective actions to be undertaken as required by TfNSW's D&C G10 specification.

Traffic modellers

Specialist traffic modellers are part of the team to inform construction staging. Modelling will be undertaken as required by the site specific CTTMP, the TCG and TTLG forums.

6.2 Communication

For all works on road and path networks that stops, slows or otherwise delays or affects the normal flow of traffic, we will liaise with the relevant road authorities including TfNSW and local councils as well as emergency services and bus operators to minimise our impacts on the traffic and transport networks during the construction phase.

6.2.1 Traffic and Transport Liaison Group

The Traffic and Transport Liaison Group (TTLG) has members from a number of sectors that are impacted or have a direct influence on traffic and transport matters. Members include personnel from TfNSW, Emergency Services, public transport operators, motoring, bicycle and pedestrian organisations and government departments who may be impacted by the works. The TTLG will meet monthly, or at other intervals agreed, at the TMO facility or via Teams if COVID-19 restrictions dictate.

Matters for discussion will include construction staging, community concerns associated with traffic changes, impacts on road, path and public transport users and operators. CTTMPs and ROL applications and the cumulative impact of works being undertaken by other projects will also be the subject of discussions at this forum.

Where required, CGU will undertake supplementary analysis and modelling to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations and the public. This includes changes and the management of any changes to pedestrian, cyclist movements and public transport services. Any revised traffic management measures will be incorporated into site-specific CTTMPs.

Up and coming special events will be included as an ongoing agenda item to ensure that any known special events and their impacts on our works are fully understood.

The Traffic Manager and Traffic Engineer will attend this forum – other members of the team, including construction personnel and the Community Engagement and Stakeholder Manager, may also attend.

6.2.2 Traffic Control Group

The Traffic Control Group (TCG) is a technical forum to discuss the proposed traffic management measures during the various stages of the construction works, including the potential impacts on the road, path and transport networks. At this forum we will discuss proposed mitigation measures. The TCG will meet weekly or as otherwise agreed.

Feedback received on the traffic documentation provided prior to the meeting will be incorporated into the revised plans.

The TCG members will vary depending on the location of the works.

Core members include:

- TfNSW sections including:
 - Customer Journey Planning
 - Planning and Programming
 - Network Operations
 - M6 Project team

Other participants may include:

- Transport Management Centre
- Emergency Services
- · Relevant local councils
- Relevant communications team members

A three month look ahead program will be provided to ensure that any identified or potential issues are raised and addressed to ensure that works proceed in line with the agreed program.

6.2.3 Our community

All community notifications will be undertaken in accordance with our Communication Strategy. The minimum consultation and community notifications, timelines, and approval routes are shown in Table 16.

Table 16:Dissemination of information to the community

Minimum Requirement	Frequency
Provide full details on the impacts of our activities on the road, pedestrian and cyclist network and traffic systems on the project website	Updated on a weekly basis
Provide large temporary driver advisory, advance notice static signposting on roads approaching the construction site. The minimum size is to be 1800x1200mm with the design to satisfy AS1743 Road Signs specifications	Provided at least three weeks prior to traffic changes
Provide large temporary direction signposting to direct motorists to residences and businesses directly affected by our activities. The minimum size is to be 1800x1200mm with	Ad hoc basis depending on impact caused by the construction stage
the design to satisfy AS1743 Road Signs specifications	Where required, provided at least 10 days prior to traffic changes
Provide temporary notices and signposting at bus stops detailing any changes to bus routes, stops, timetables and service frequencies due to our works	Provided at least 10 days prior to a change to any bus service
Provide temporary notices and signposting at pedestrian and cyclist crossings of the construction site and routes around the construction site detailing any changes to these facilities due to our activities	Provided at least 10 days prior to a change to any pedestrian or cycle route
Provide variable message signs at appropriate locations and in accordance with relevant TfNSW guidelines and policies	Provided at least 10 days prior to traffic changes
Provide radio advertising	Will be advised by Customer Journey Planning (CJP) in keeping with CJP current procedures.
	CGU will provide details of upcoming traffic changes to CJP through both the TCG and the TfNSW Stakeholder and Community Engagement Team
Provide full details on the impacts of our activities on the road, pedestrian and cyclist network and traffic systems in	Quarterly

Minimum Requirement	Frequency
the newsletters issued as part of the community involvement and consultation process	
Provide leaflets to letterboxes of local properties, residences and businesses outlining project information including the current and next construction stage and changes and impacts on traffic conditions, including on-street parking conditions, the number of traffic lanes and turn movements, changes to pedestrian and cyclist crossings and access	Leaflets prepared and submitted prior to the start of every construction activity that involves a change of three or more days duration to the road network and traffic systems.
routes and changes to bus routes, service frequencies and stops	Distributed to all properties, residences and businesses directly affected by, and within 500m of, the changes to the road network and traffic systems
Provide full details on the impacts of our activities on the road network and traffic systems in the project display centres and social media platforms	Display at least two weeks prior to the start of every construction activity that involves a change of three or more days duration to the road network and systems
Provide email, telephone, social media and postal contacts for interaction with the community to receive comments concerning traffic issues associated with our activities	Available at all times during our activities
Maintain a register of all views, complaints and comments received from the community, including details on the date received, location, subject matter, name and address of the member of the community, actions taken, response given, and any information related to the issues. Provide a summary report to the Principal on the contents and status of the register	Maintain the register continuously. Provide the report daily and monthly
Provide email and telephone facilities between Customer Journey Planning and us	Provide the facilities 24hours per days, 7 days per week

6.3 Training

All employees, contractors and utility staff working on site will be required to complete a project induction which includes information on the management and mitigation measures of this procedure including information on vehicle routes, parking locations, acceptable delivery hours specific to the site and other relevant practices (i.e. minimising the use of engine brakes, and no extended periods of engine idling). Ongoing reminders will be communicated through pre-starts and toolboxes, including feedback from residents (where relevant). Details regarding personnel induction and training are outlined in Section 3.6 of the CEMP.

6.4 Monitoring and Inspections

Regular monitoring and inspections will be carried out during construction across all Project sites in accordance with Section 3.9 of the CEMP.

In addition to this, CGU will undertake inspections of implemented long term traffic measures to ensure that they are fit for purpose and that all devices are clear and legible for all road users. These inspections will include daily checks of implemented measures with intermittent night-time inspections by a qualified person.

Every TGS/VMP implemented for works will be subject to checking as required by the TfNSW Traffic Control Work Sites Manual, refer to Table 17 These checks are to ensure that the TGS and CTTMP are maintained fit for purpose and that the safety of all users is not compromised.

Table 17 Monitoring activities (adapted from TCAWS Manual v6 Tables 8-1 and 8-2)

Stage	Activity	Purpose	Responsible entity
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location	Traffic Manager or delegate/ Traffic Control Subcontractor/ Engineer
During temporary traffic management	Weekly inspections	To ensure that the CTTMP and relevant TGS are appropriate and operating safely, effectively and efficiently	Traffic Manager or delegate
	Shift inspections	To ensure that the TGS is implemented as designed. This includes at a minimum twice per shift and when a	Traffic control subcontractor(s)
		A TGS is installed/ changed or updated	
		At regular frequency after work commences (recommended every 2 hours)	
		Once aftercare arrangements have been installed if required	
	CTTMP review	To ensure that the CTTMP controls are achieving the required outcomes	Traffic Manager or delegate
	Road safety audits	To identify road safety crash potential and areas of risk that could lead to traffic incidents.	Road safety auditors
Post completion	Post completion inspection	To ensure that the site has been demobilised as planned and is safe for opening to traffic	Traffic Manager or delegate/ Traffic Control Subcontractor/ Engineer

Records will be maintained of all traffic guidance facilities and any adjustments or changes made to such facilities, together with dates and times the facilities were installed, varied and removed.

The TMO and incident response crews will also measure and record traffic queue lengths during the life of ROLs. An auditing program of road occupancies, including regular and frequent audits and inspections will be implemented.

Monitoring of the road network will be undertaken daily by our incident response crews.

6.5 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this Plan, CoA, EMM's and other relevant approvals, licences and guidelines. Audit requirements are detailed in Section 3.9.3 of the CEMP.

6.6 Reporting

Reporting requirements to be provided to the Planning Secretary include:

 Construction Parking and Access Management Strategy – required under CoA E140 – this strategy will be provided prior to any construction that impacts existing parking arrangements.

Other reporting requirements include a monthly progress report which will be provided to TfNSW and CJP. This report will include an update on the management of traffic and transport and any traffic and transport issues including:

- Current and upcoming critical issues, including those identified by the TfNSW, TCG, TTLG and
 other relevant stakeholders, and the proposed measures to address these issues
- Recent and proposed changes to traffic management, parking and kerbside use and the impact
 of this on road users, the operation of the road networks and traffic systems
- Media or community information released and proposed to be released and comments and complaints in relation to traffic and transport
- Recent traffic related incidents on and in the vicinity of the construction sites and traffic management works including cumulative totals,
- A summary of existing and proposed traffic documentation, including ROL, site specific CTTMP, RSA including status and identified critical impacts and concerns raised by our stakeholders including changes to the construction staging
 - Comparisons of current and base case traffic conditions including traffic volumes at intersections and travel time impacts

We will provide reports to the Traffic and Transport Liaison Group (TTLG) and the Traffic Control Group (TCG) with these reports including any issues that are affecting the road network, traffic and bus operations due to our activities and the actions taken to mitigate the impact.

7 Review and improvement

7.1 Continual improvement

Section 3.2.2 of the CEMP describes the process for the continual improvement of project documents.

Continual improvement of this Traffic and Access CEMP Sub-plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continual improvement process is designed to:

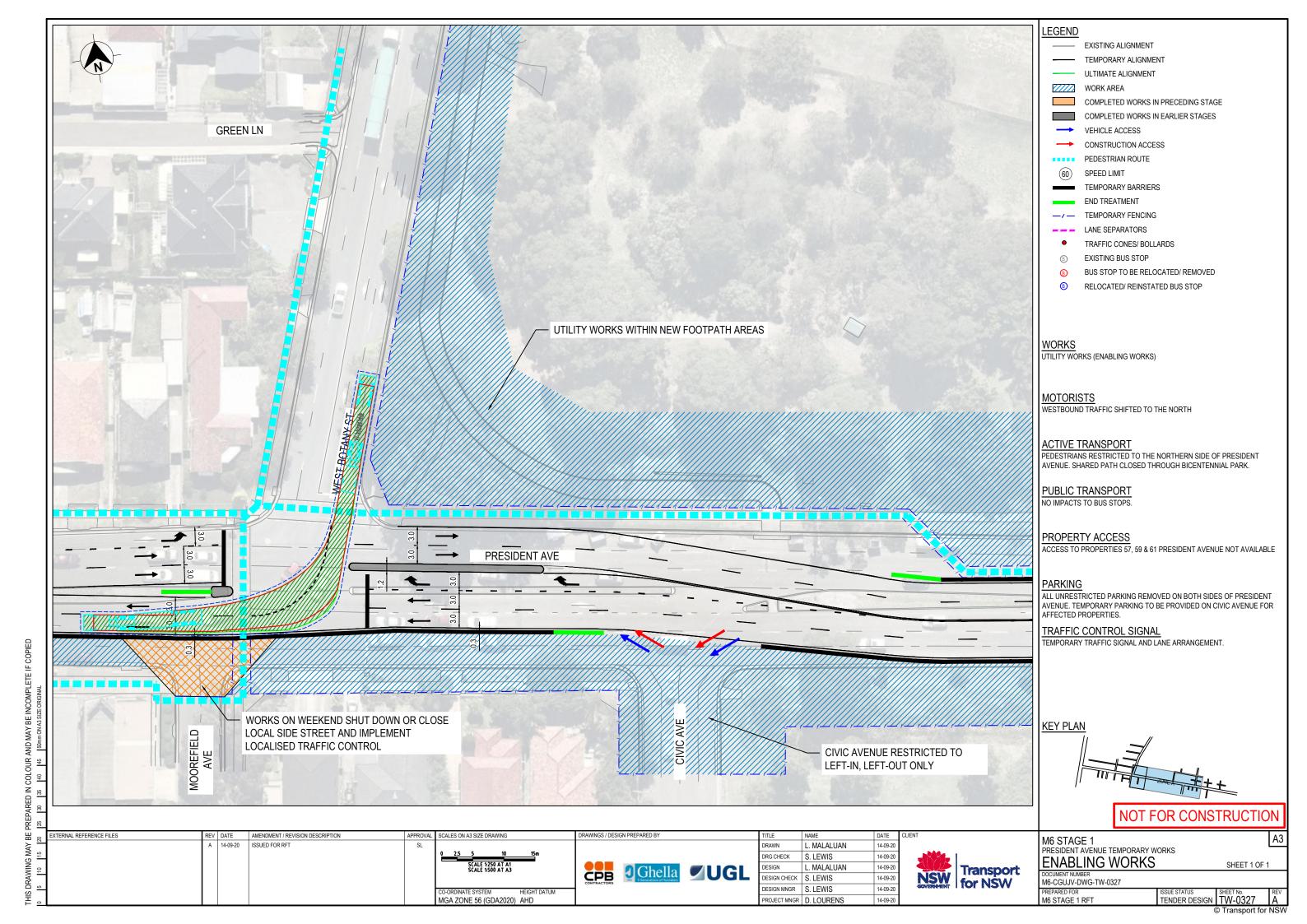
- Identify areas of opportunity for improvement of environmental management and performance;
- Determine the cause or causes of non-conformances and deficiencies;
- Develop and implement a plan of corrective and preventative action to address any nonconformances and deficiencies (refer Section 3.10 of CEMP);
- Verify the effectiveness of the corrective and preventative actions (refer Section 3.12 of the CEMP);
- Document any changes in procedures resulting from process improvement; and
- · Make comparisons with objectives and targets.

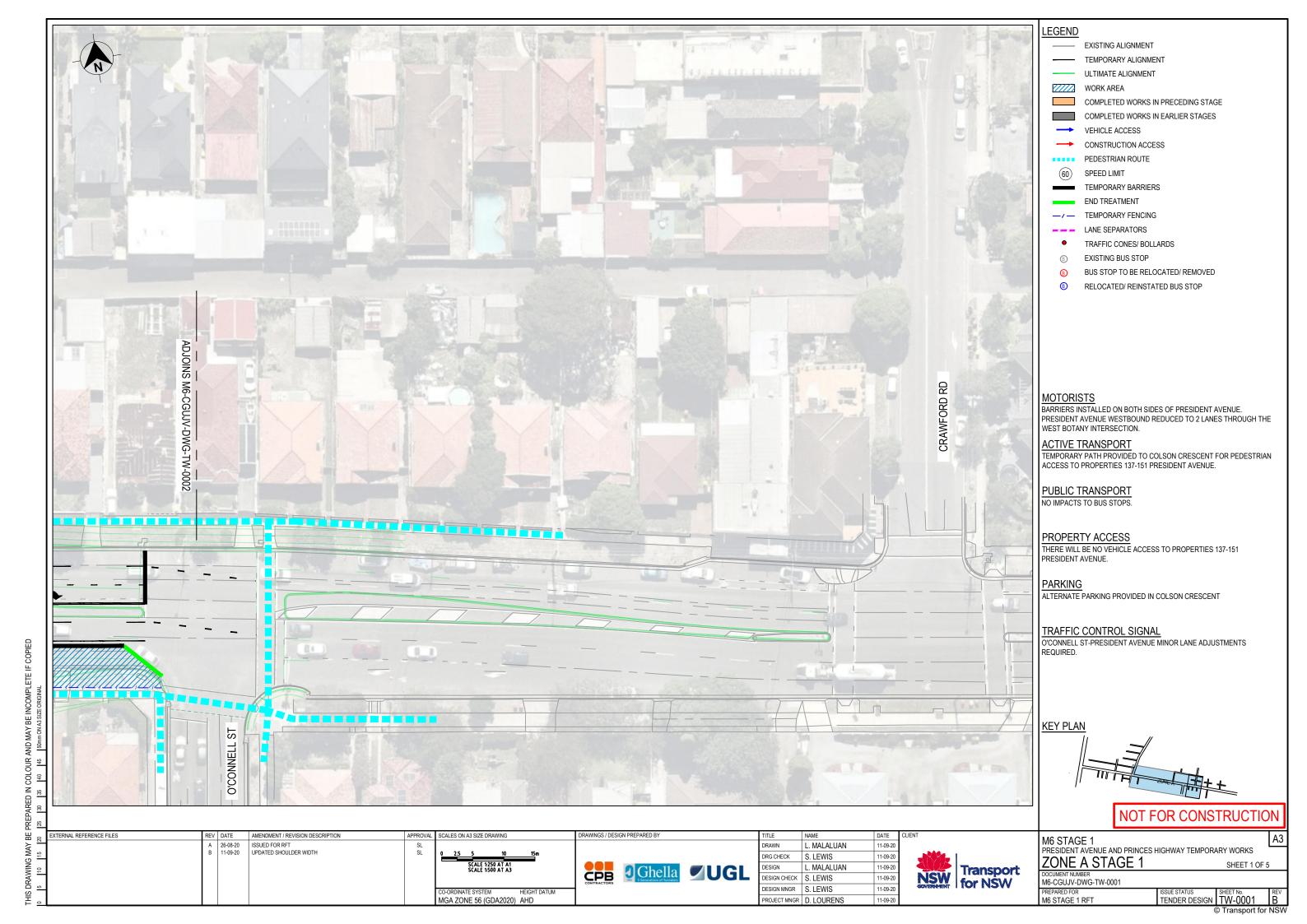
7.2 TAP update and amendment

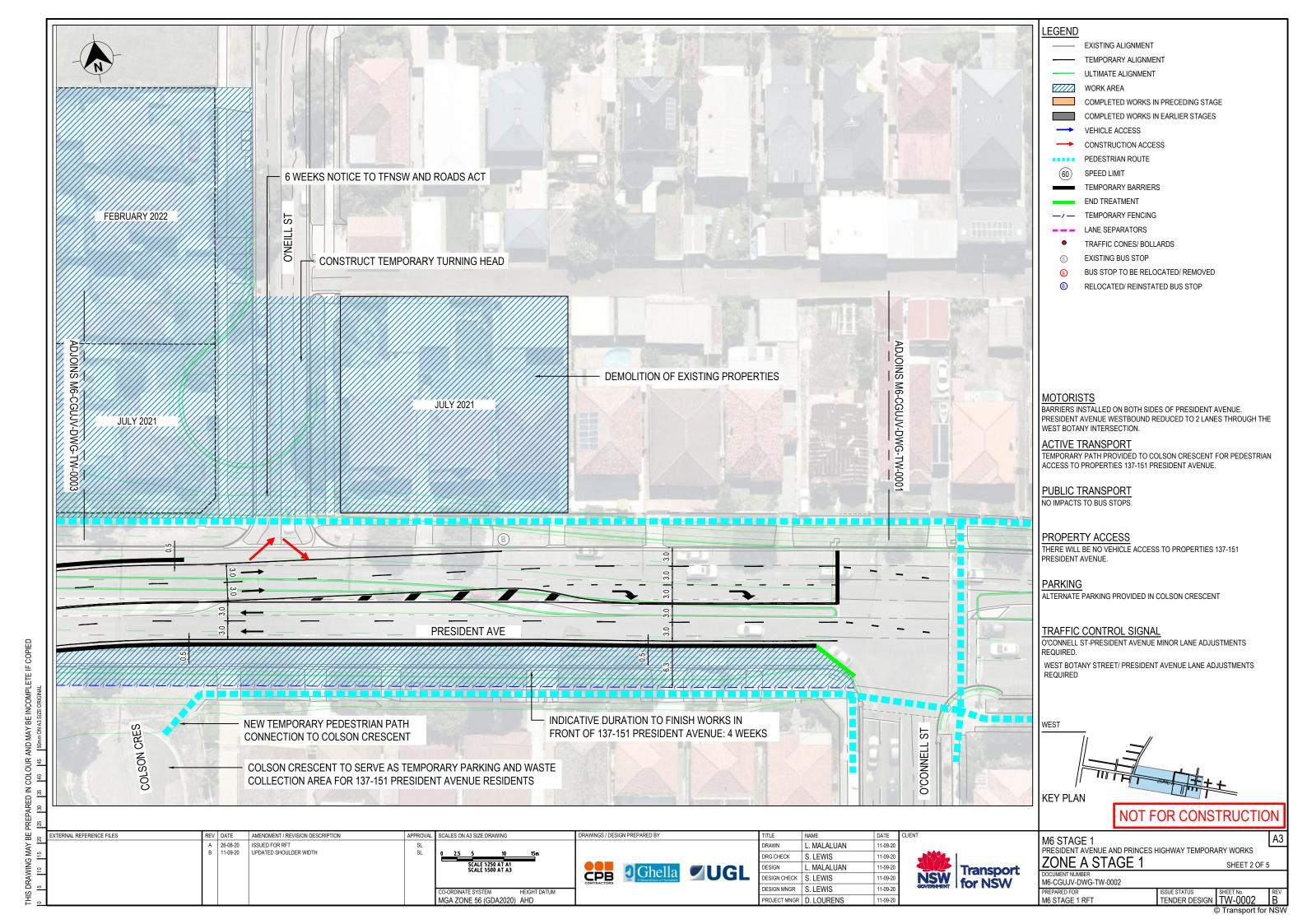
The process described in Section 3.12 to Section 3.14 of the CEMP describes the process for revising and updating the CEMP and its Sub-plans. This will occur as needed. A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 2 of the CEMP. Traffic Manager (in consultation with the Environment Manager) will be responsibility for amendments of this TAMP.

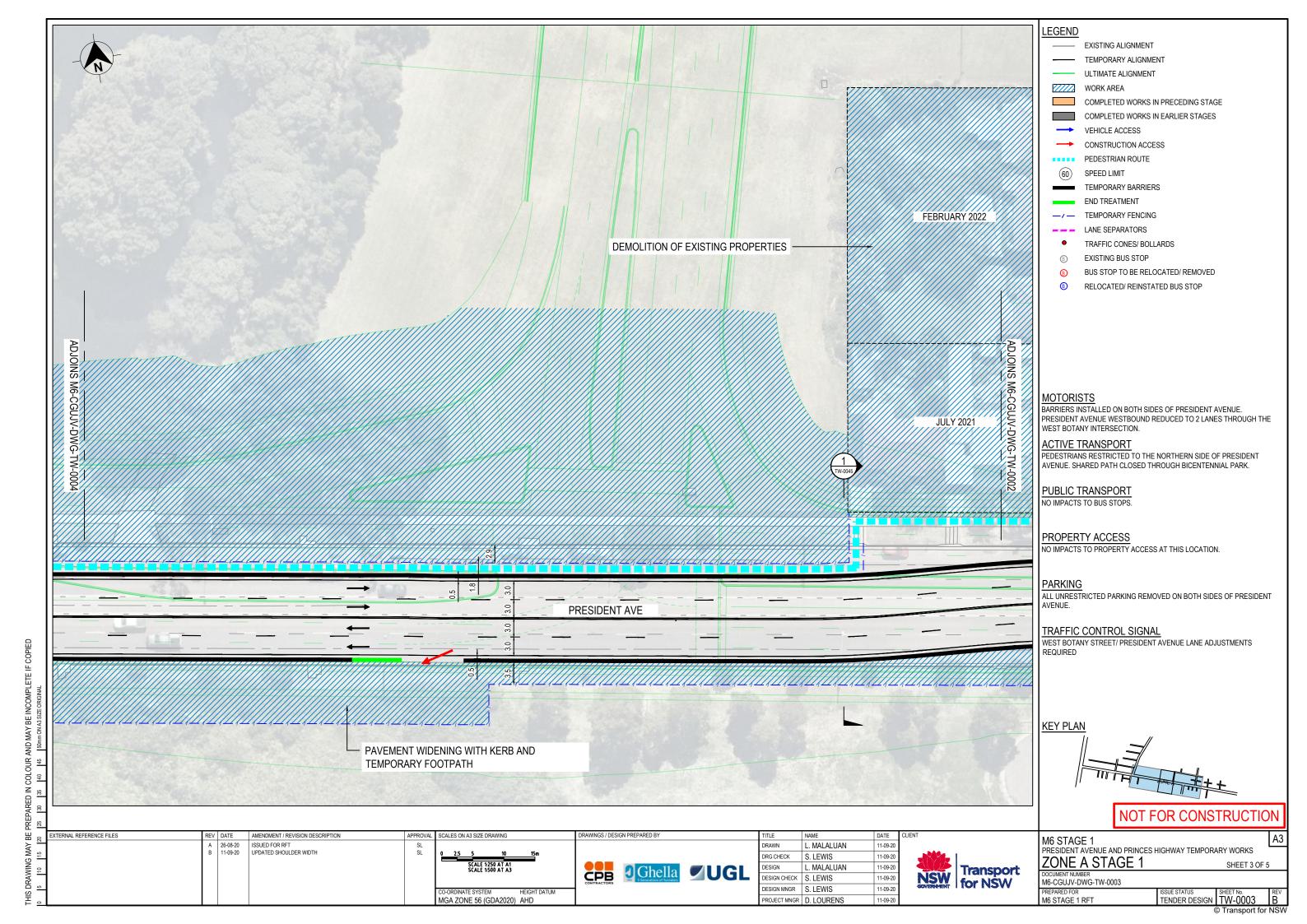
A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 3.11.2 of the CEMP.

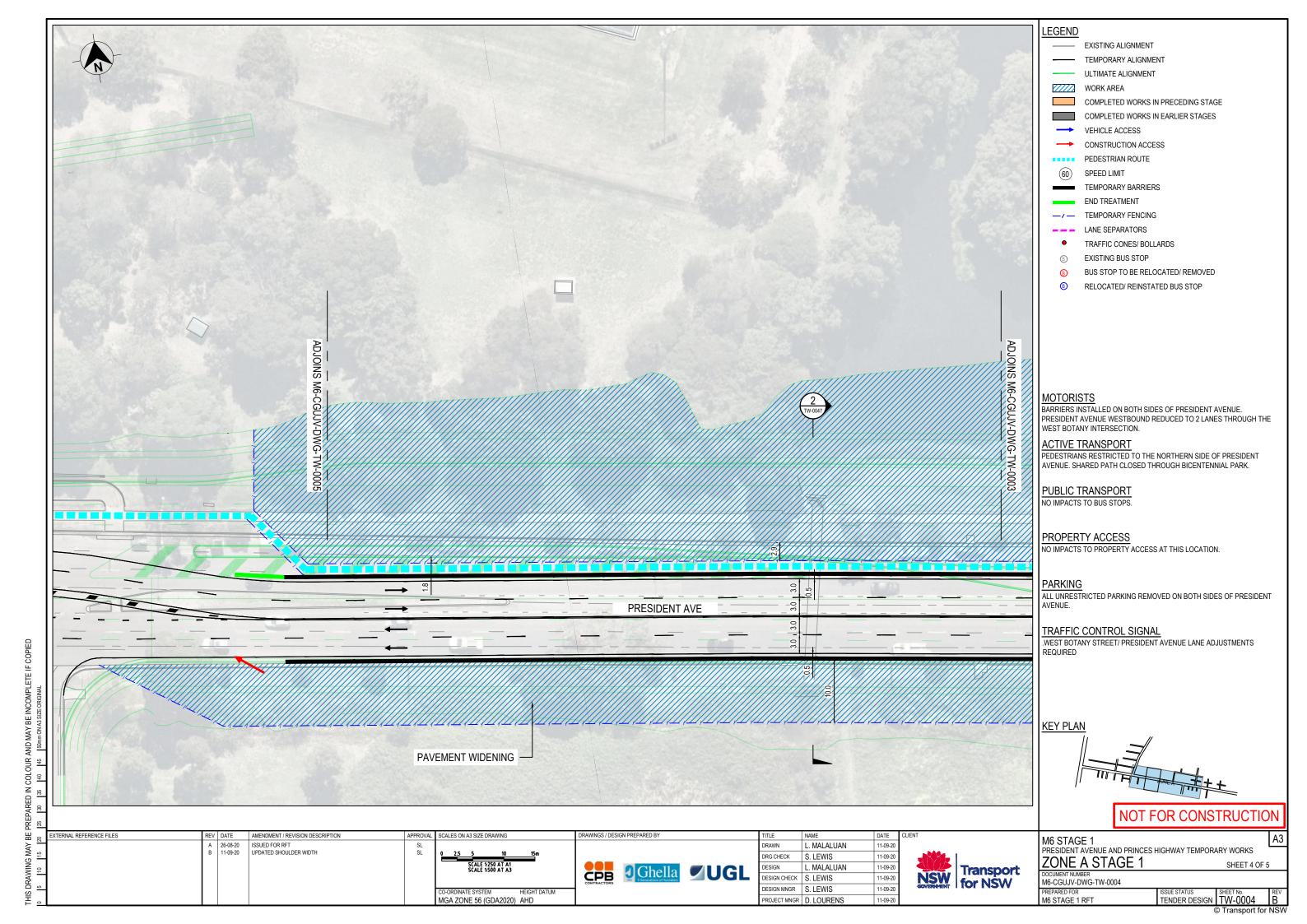
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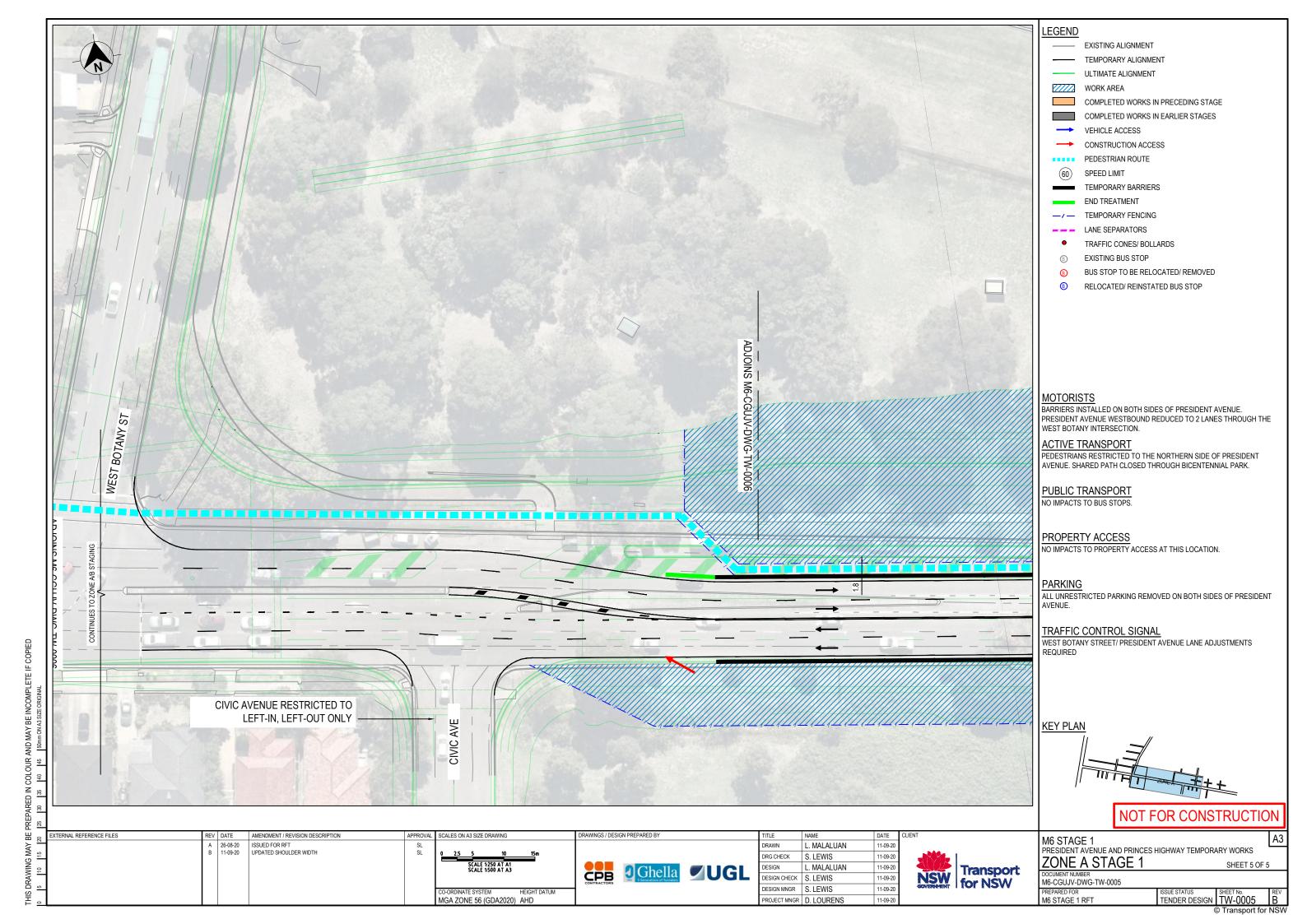


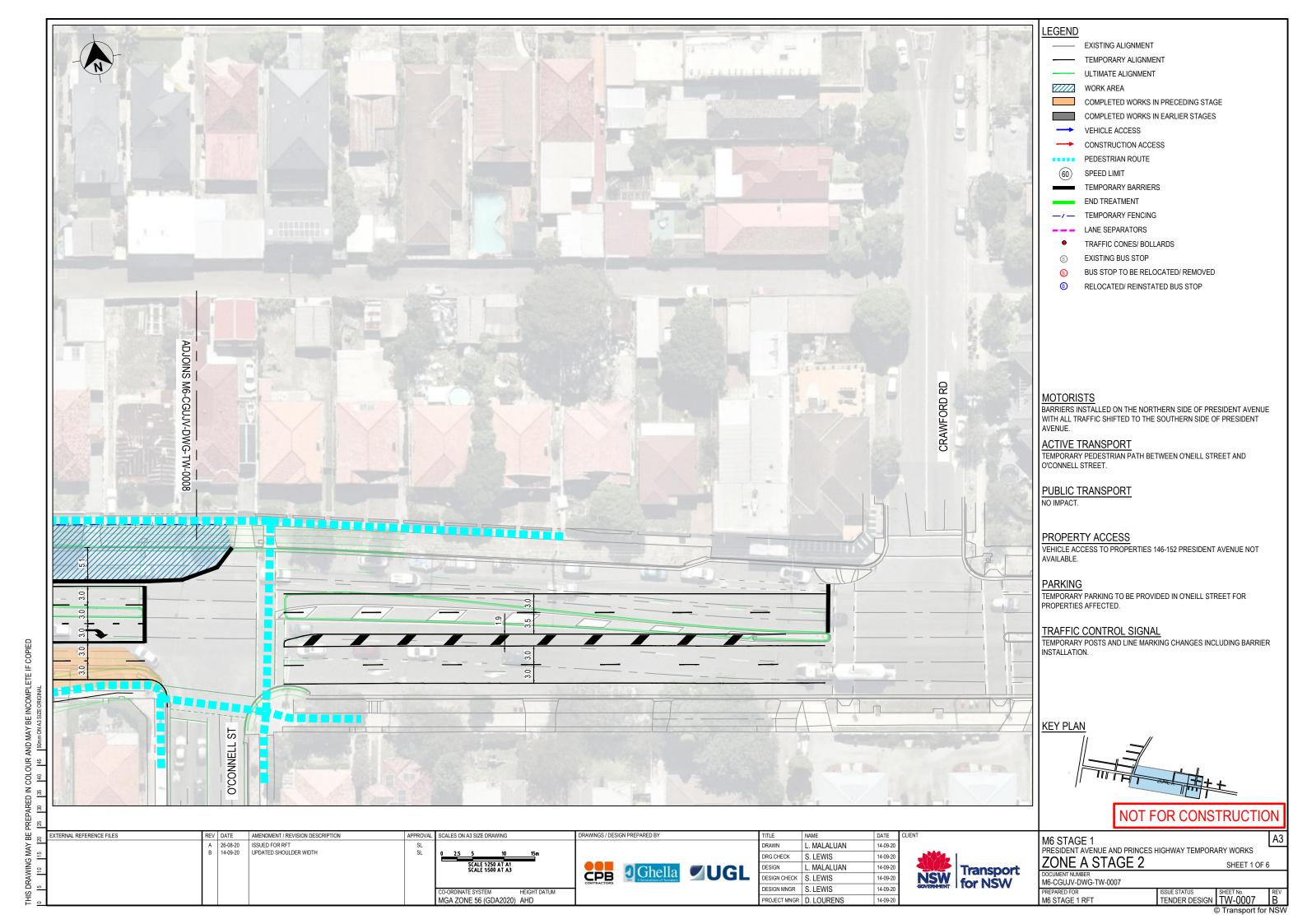


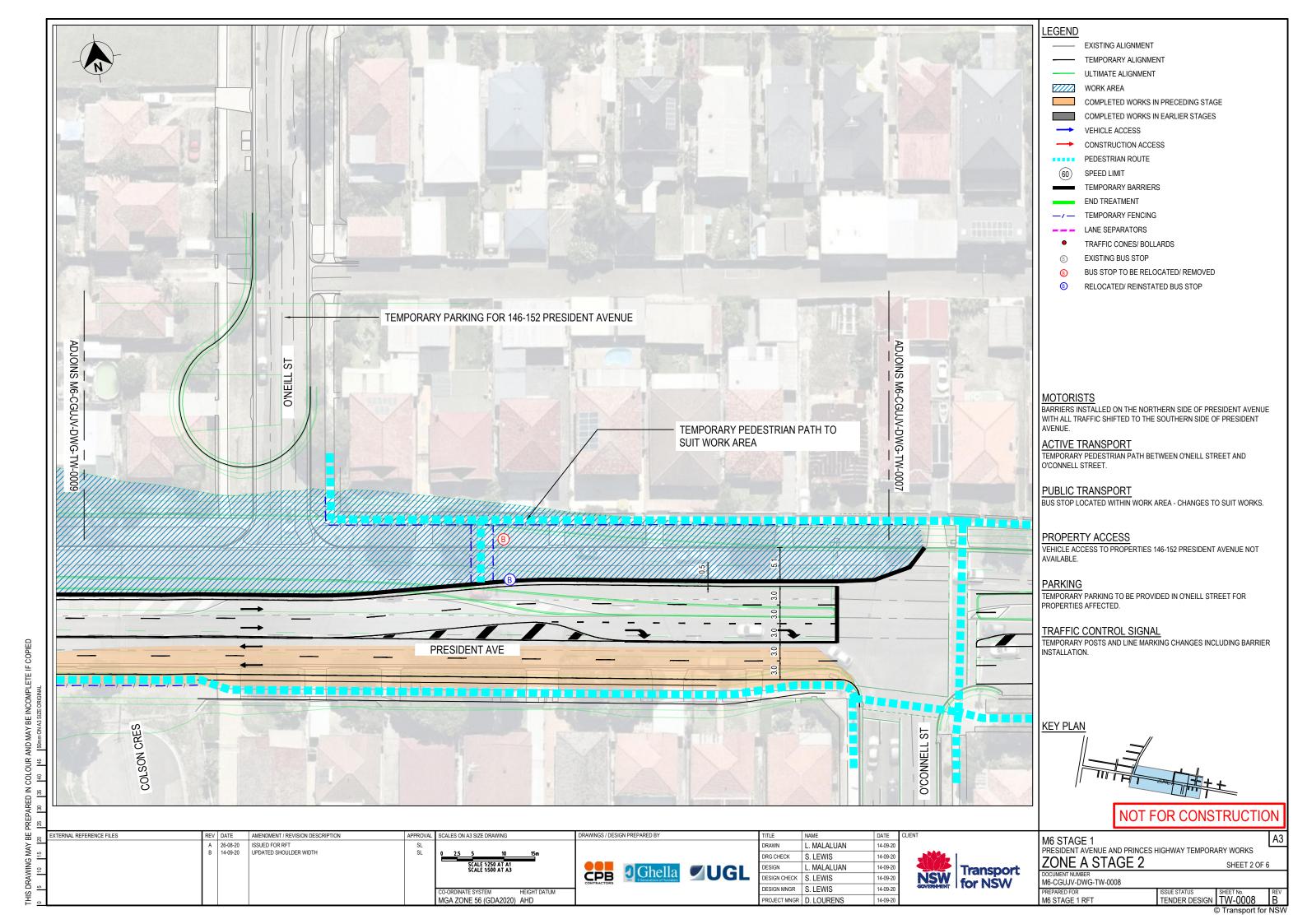


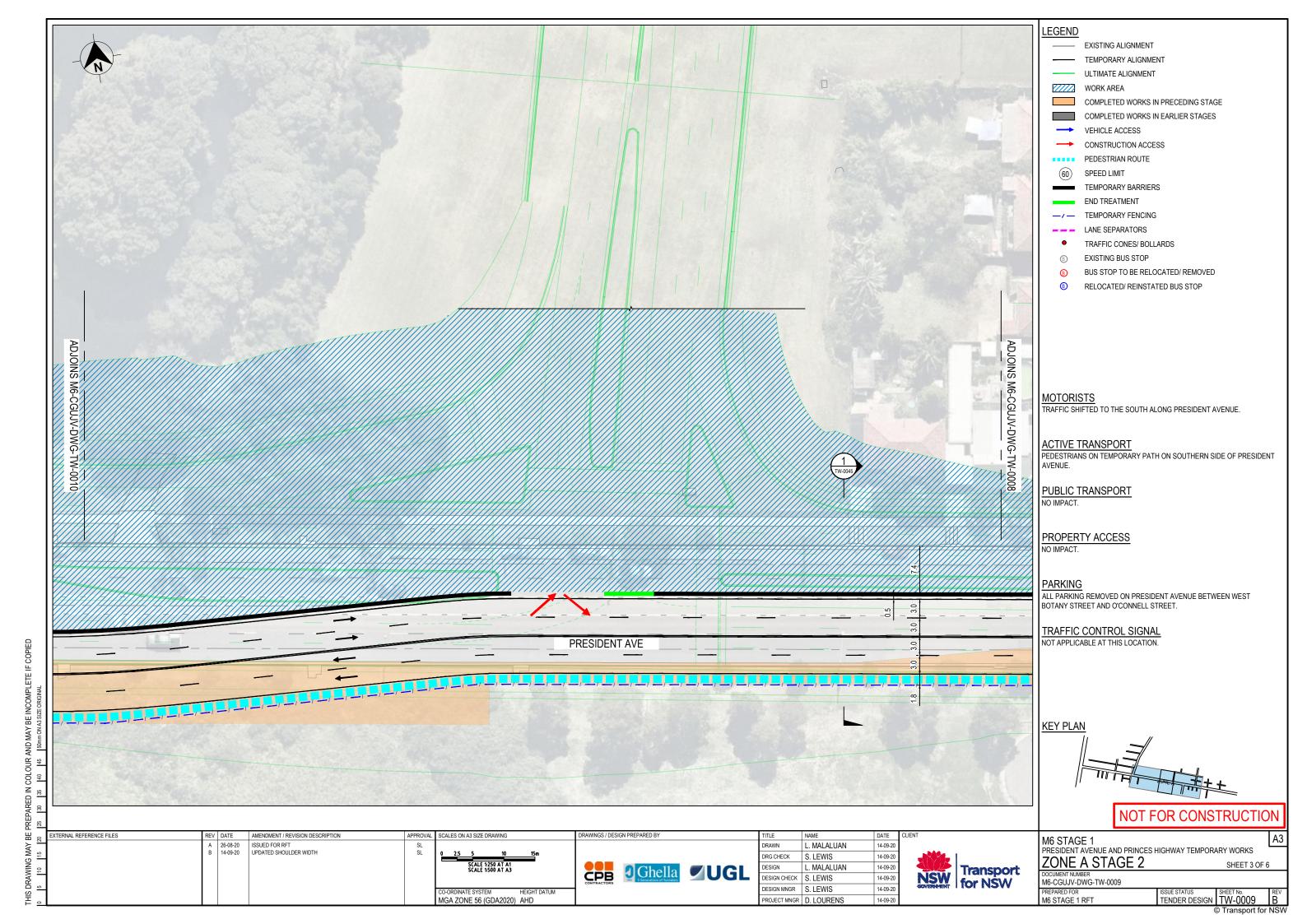


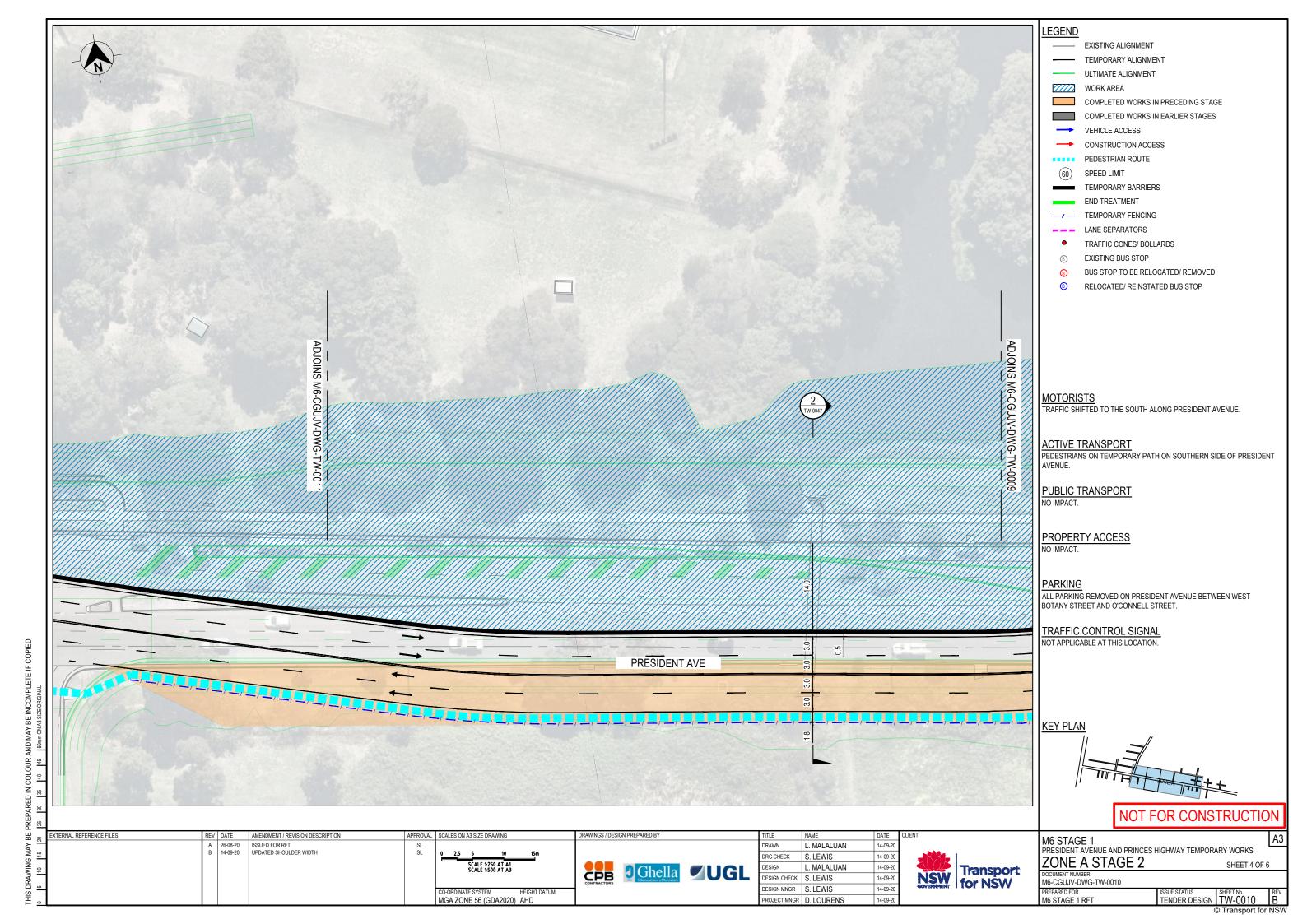


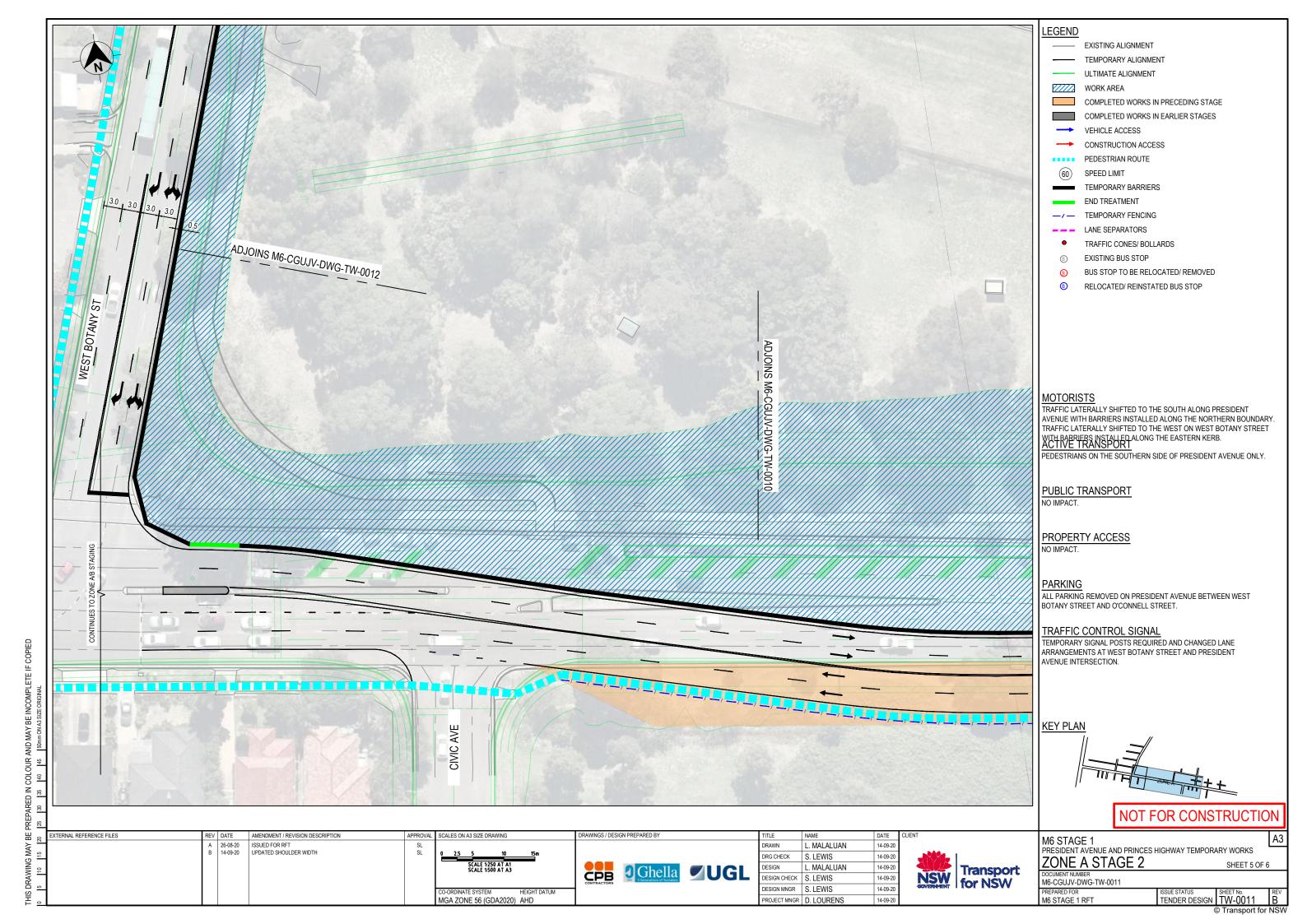


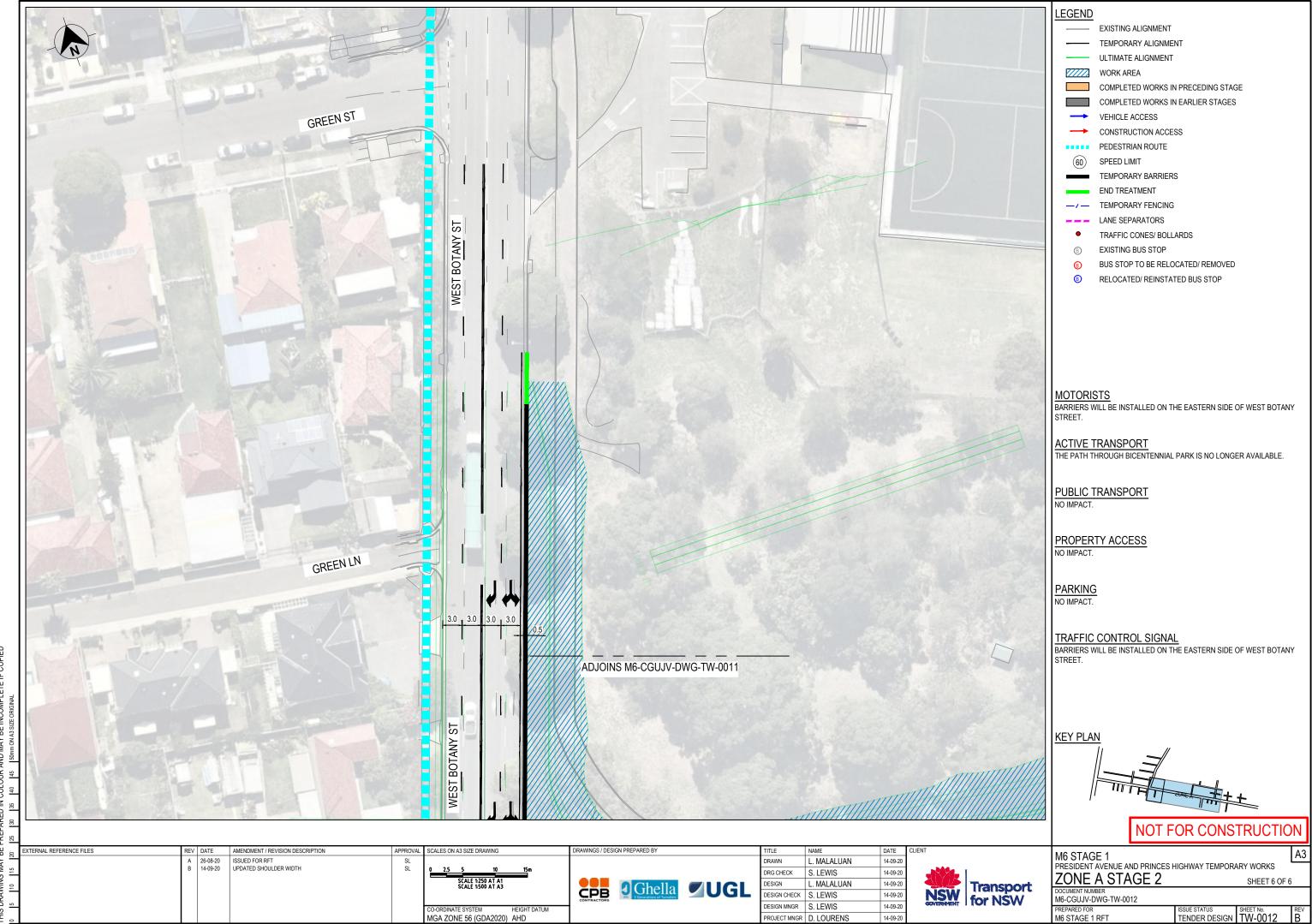




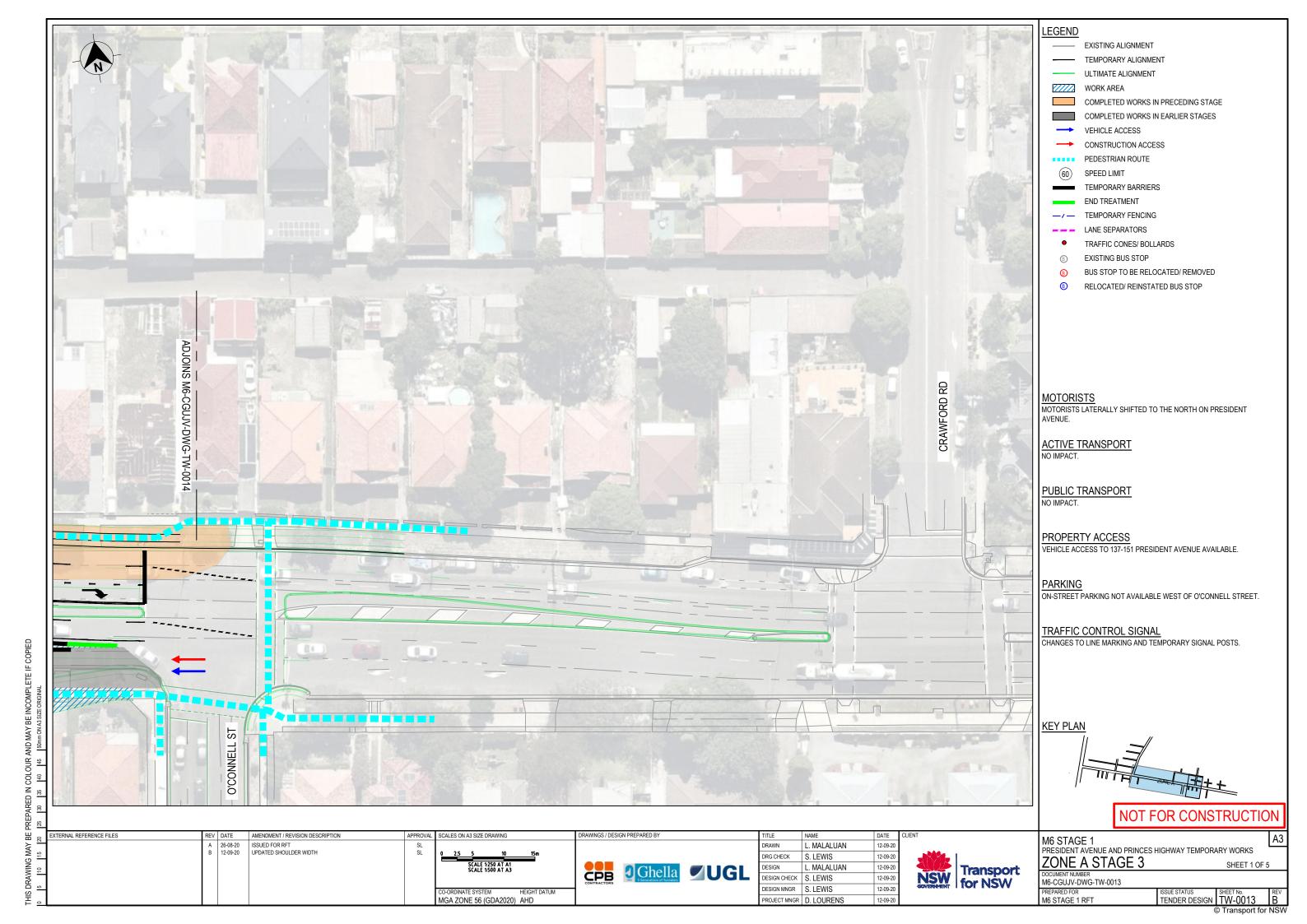


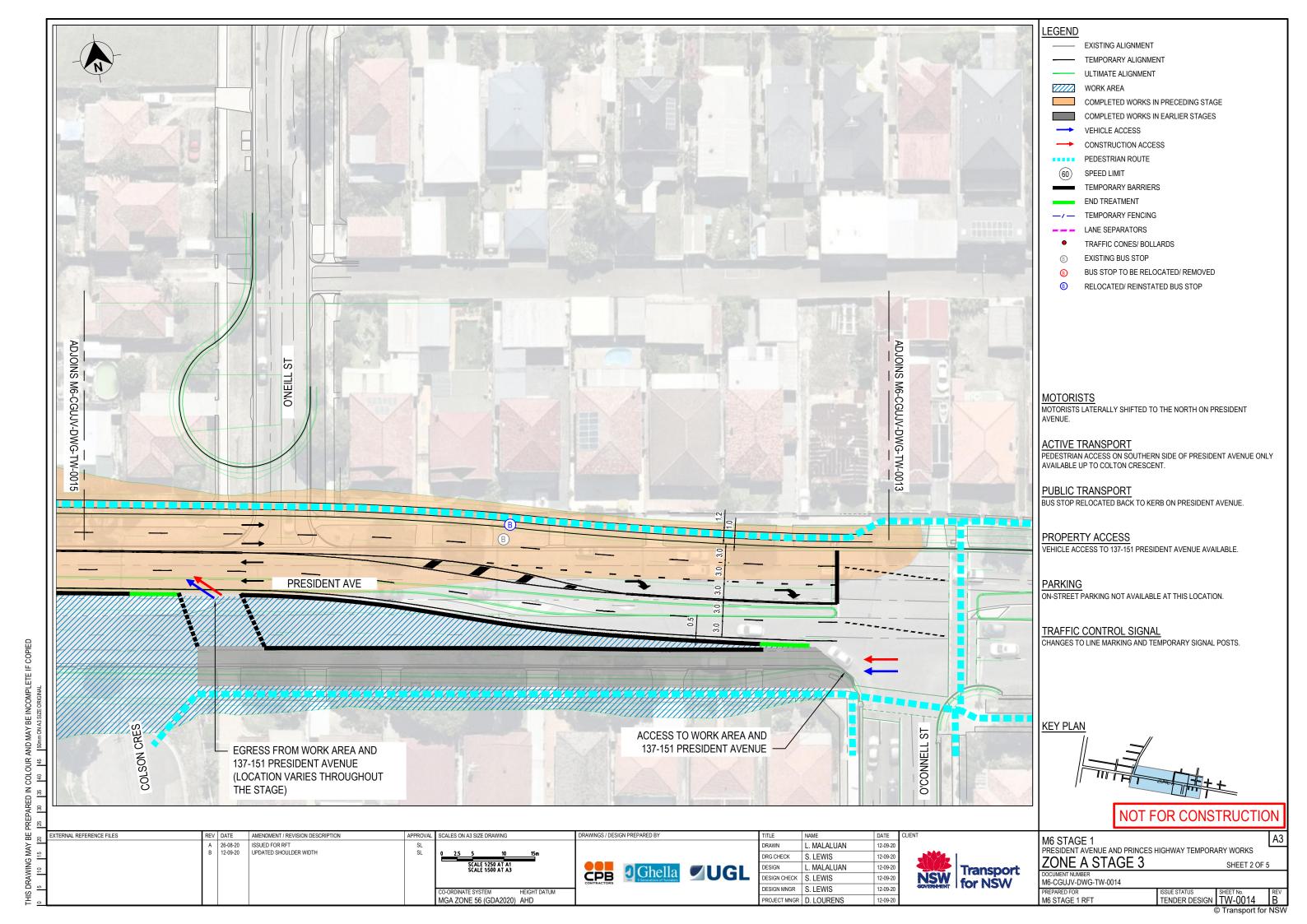


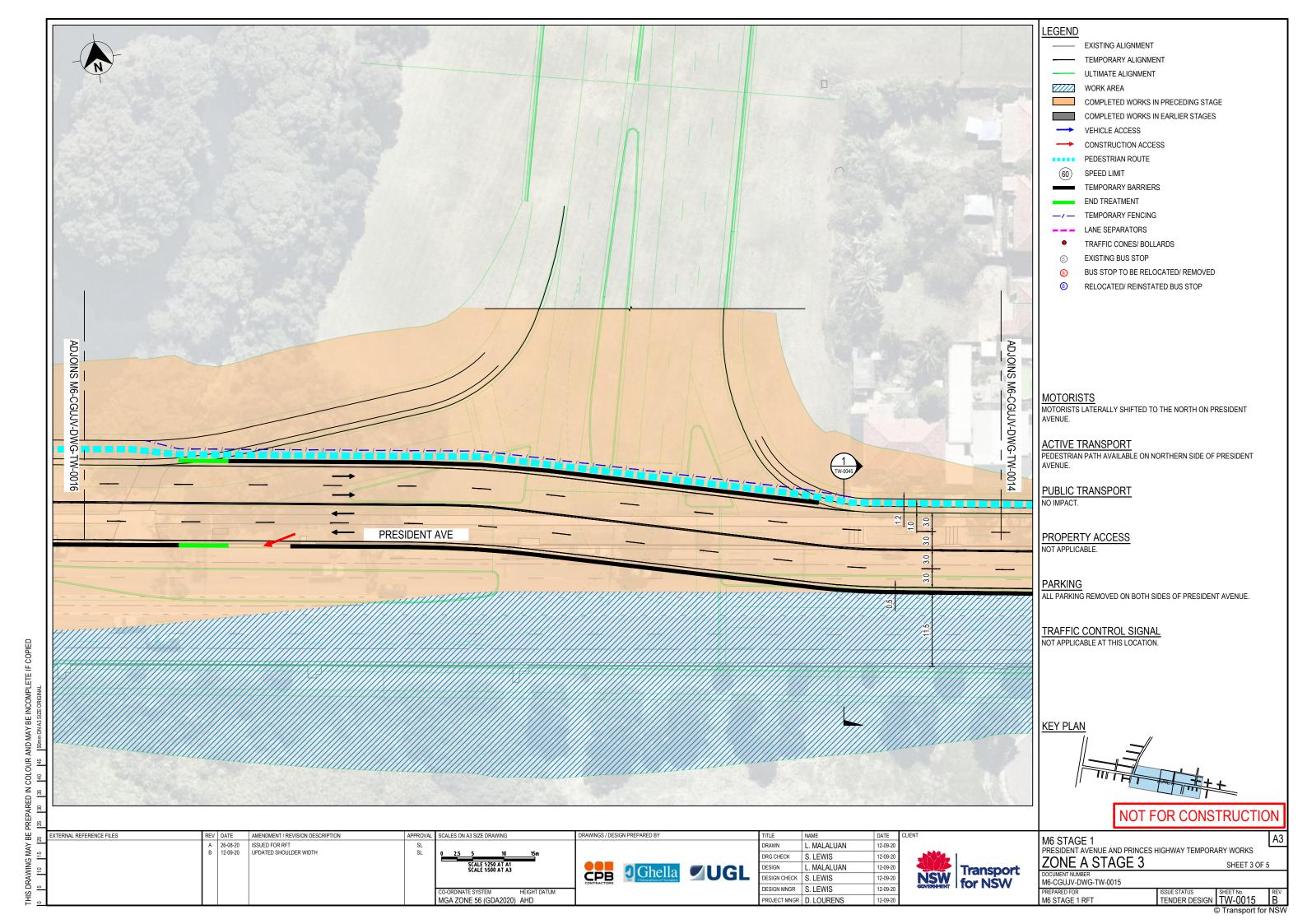


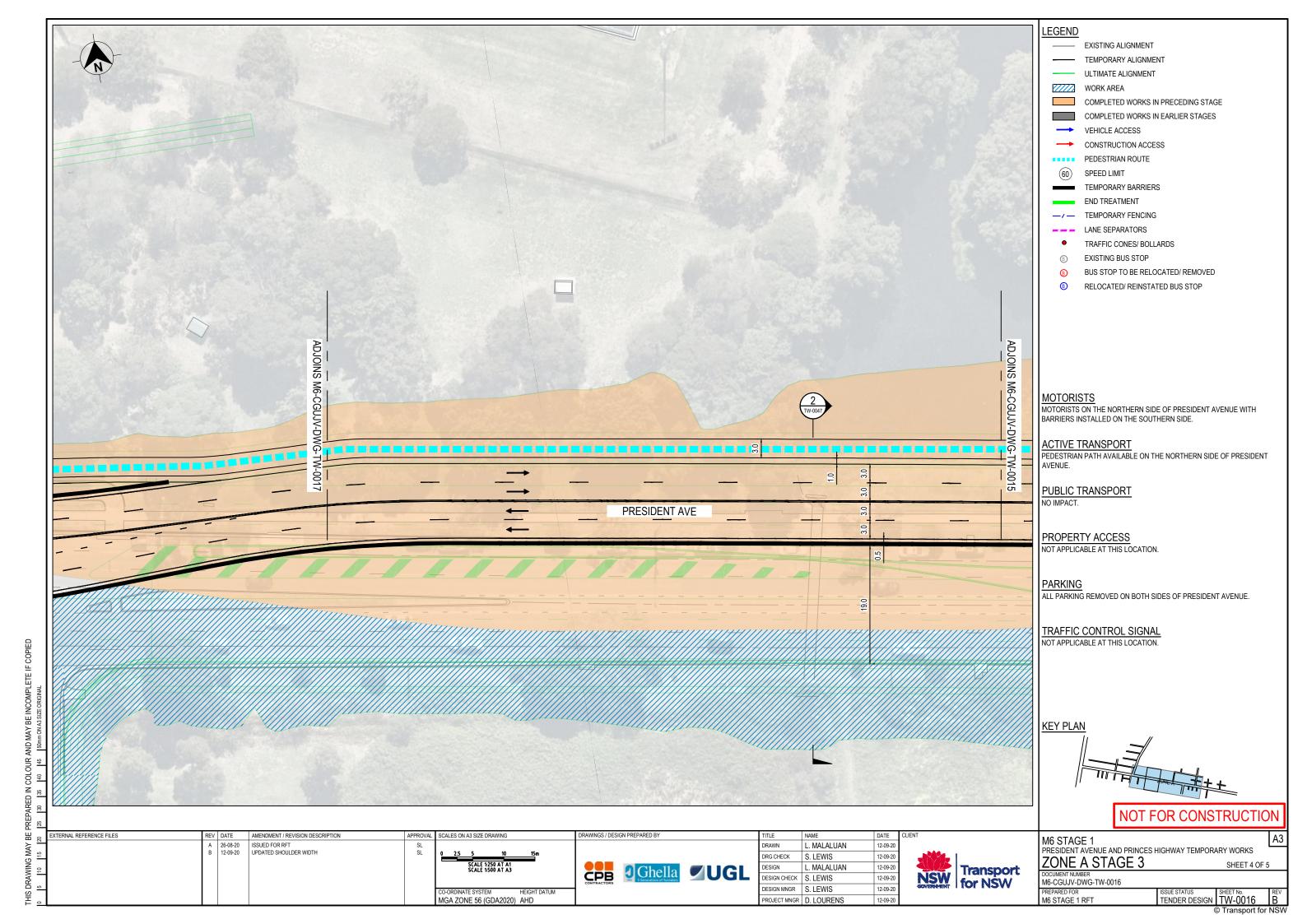


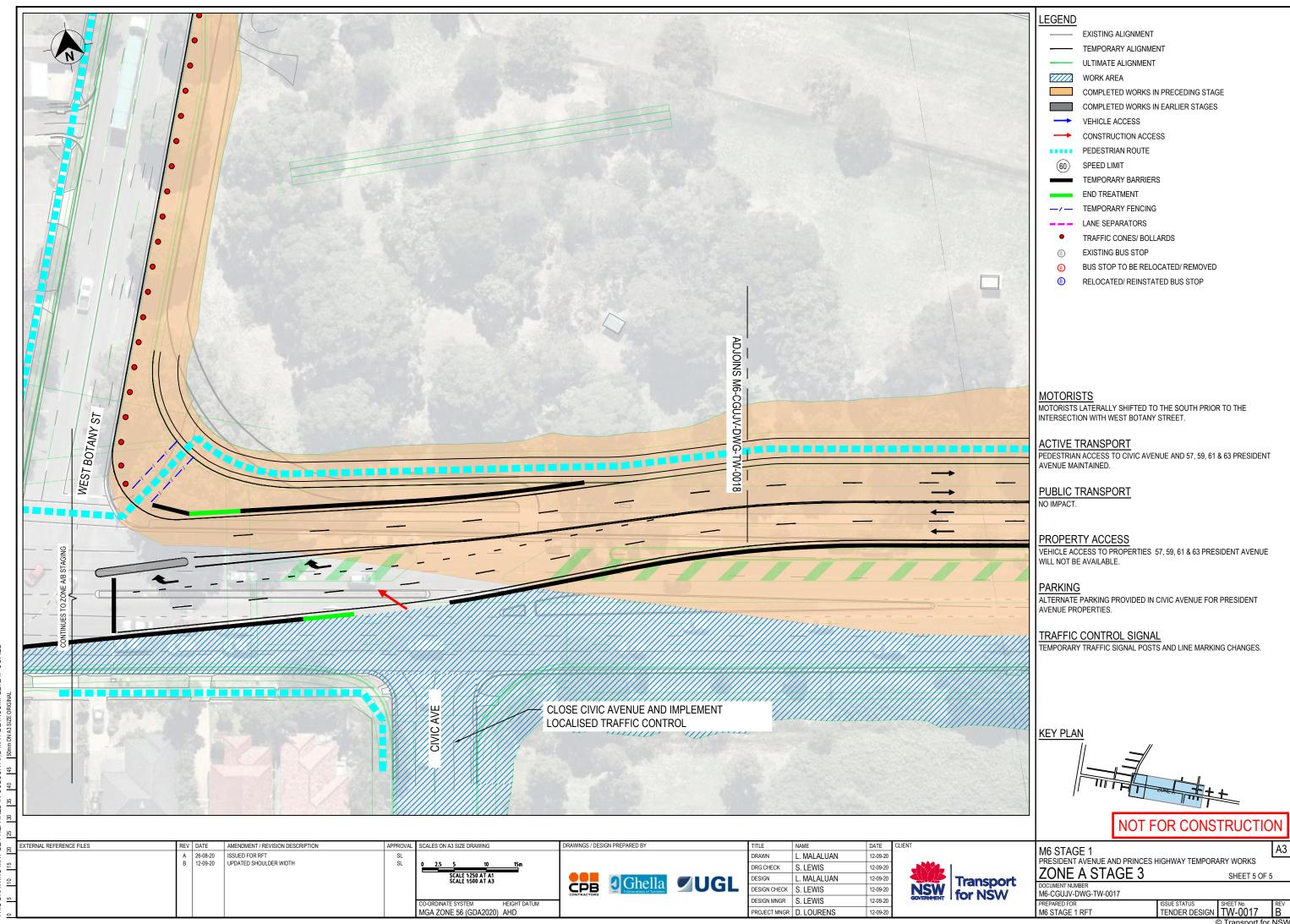
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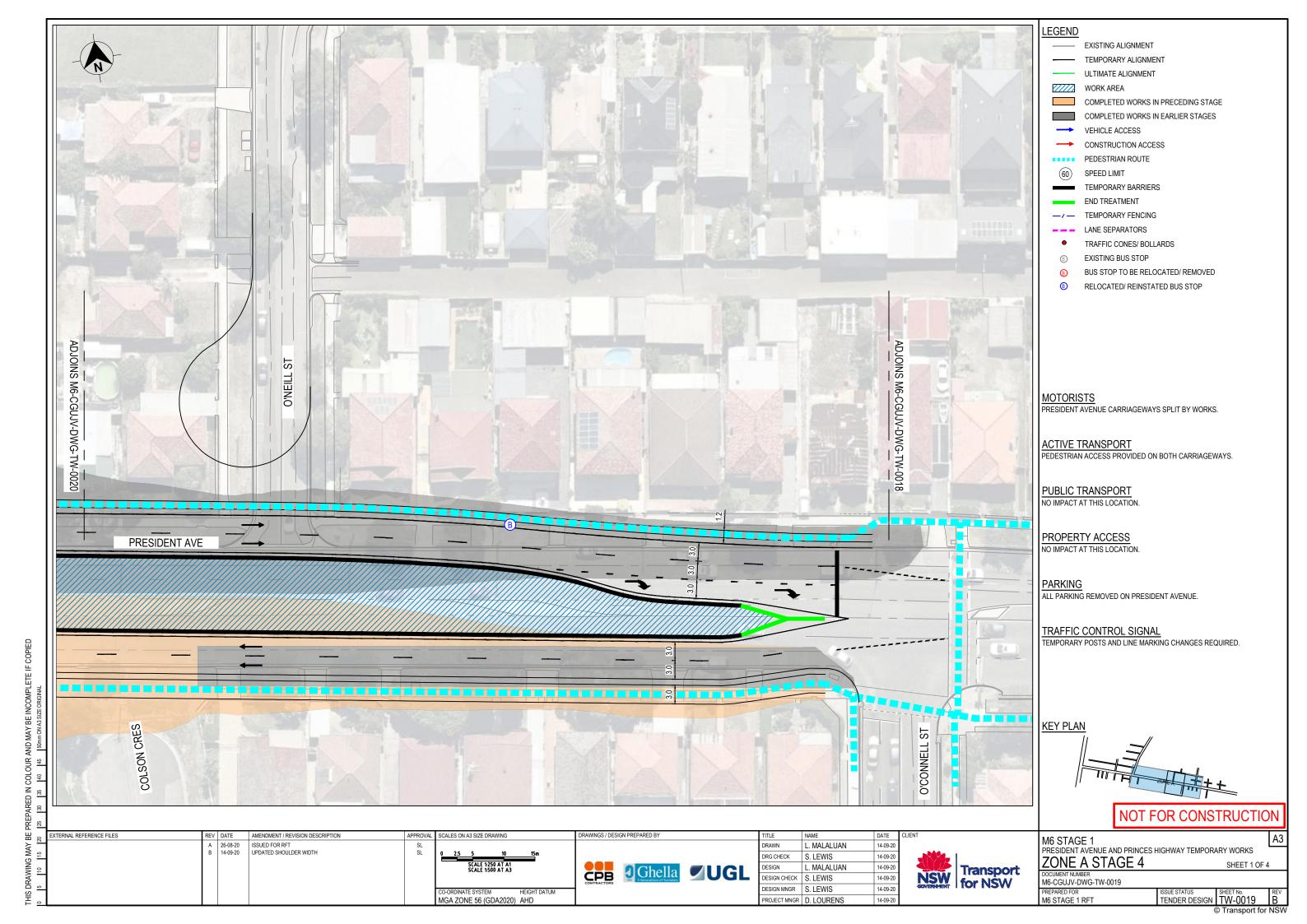


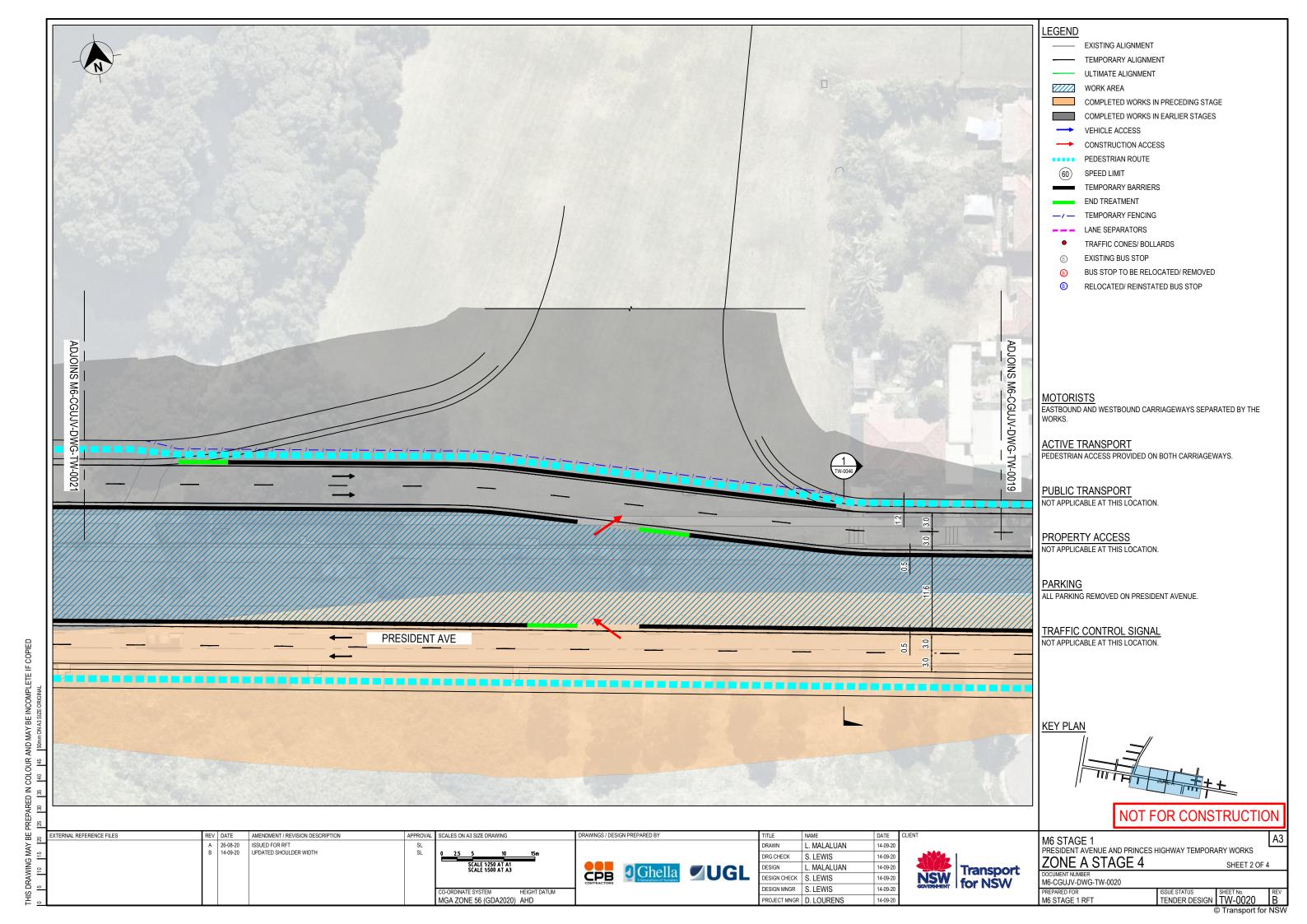


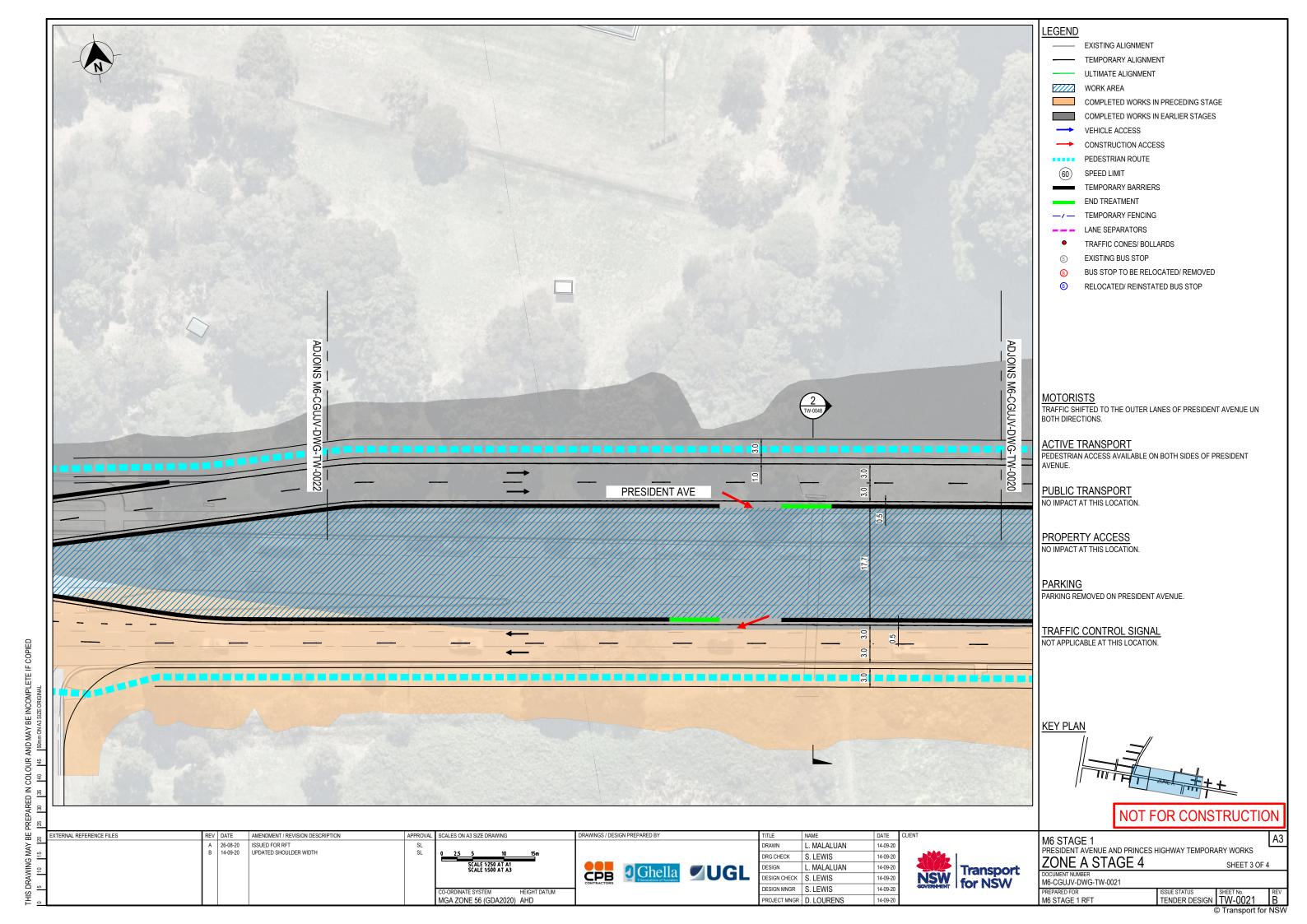


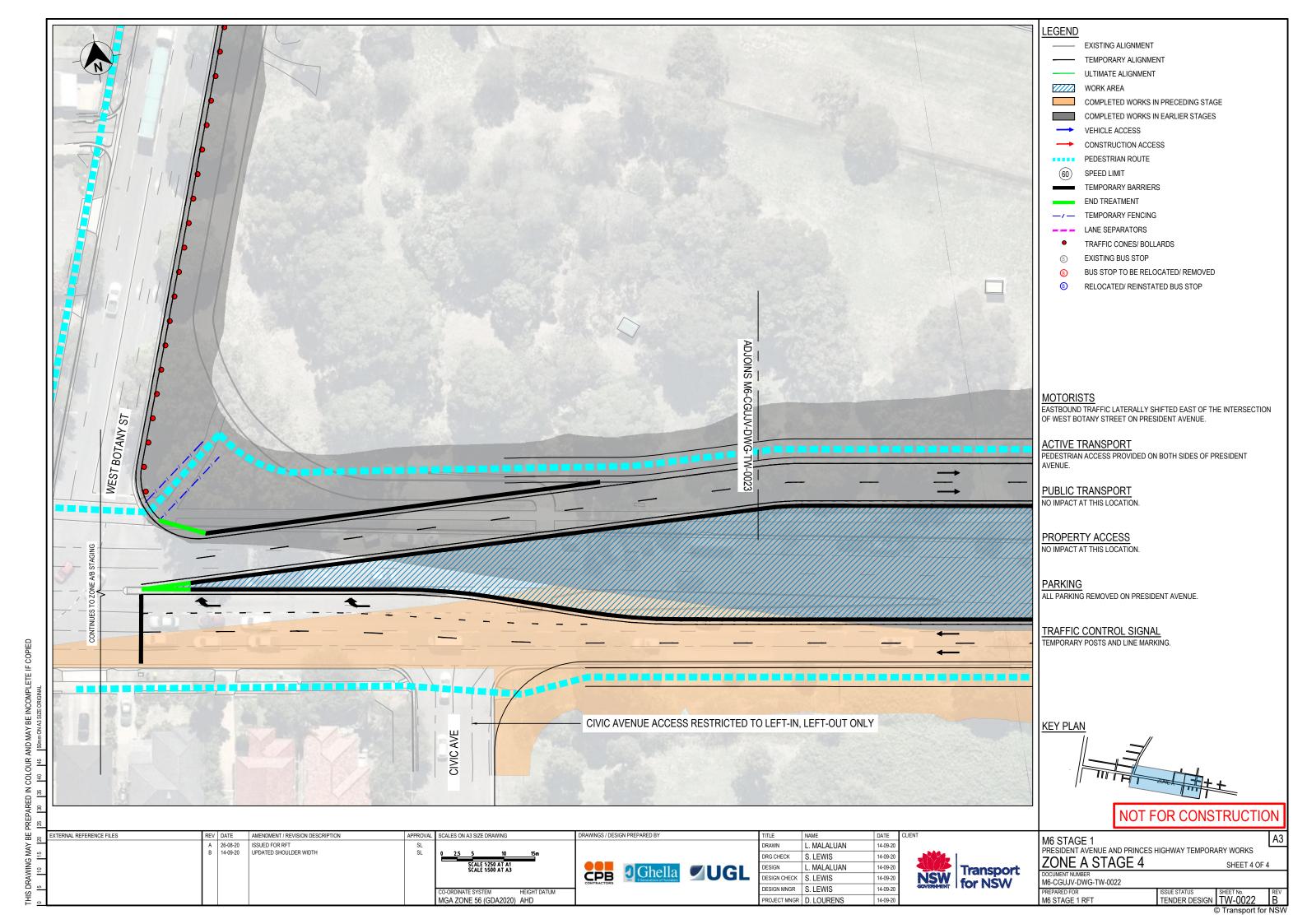


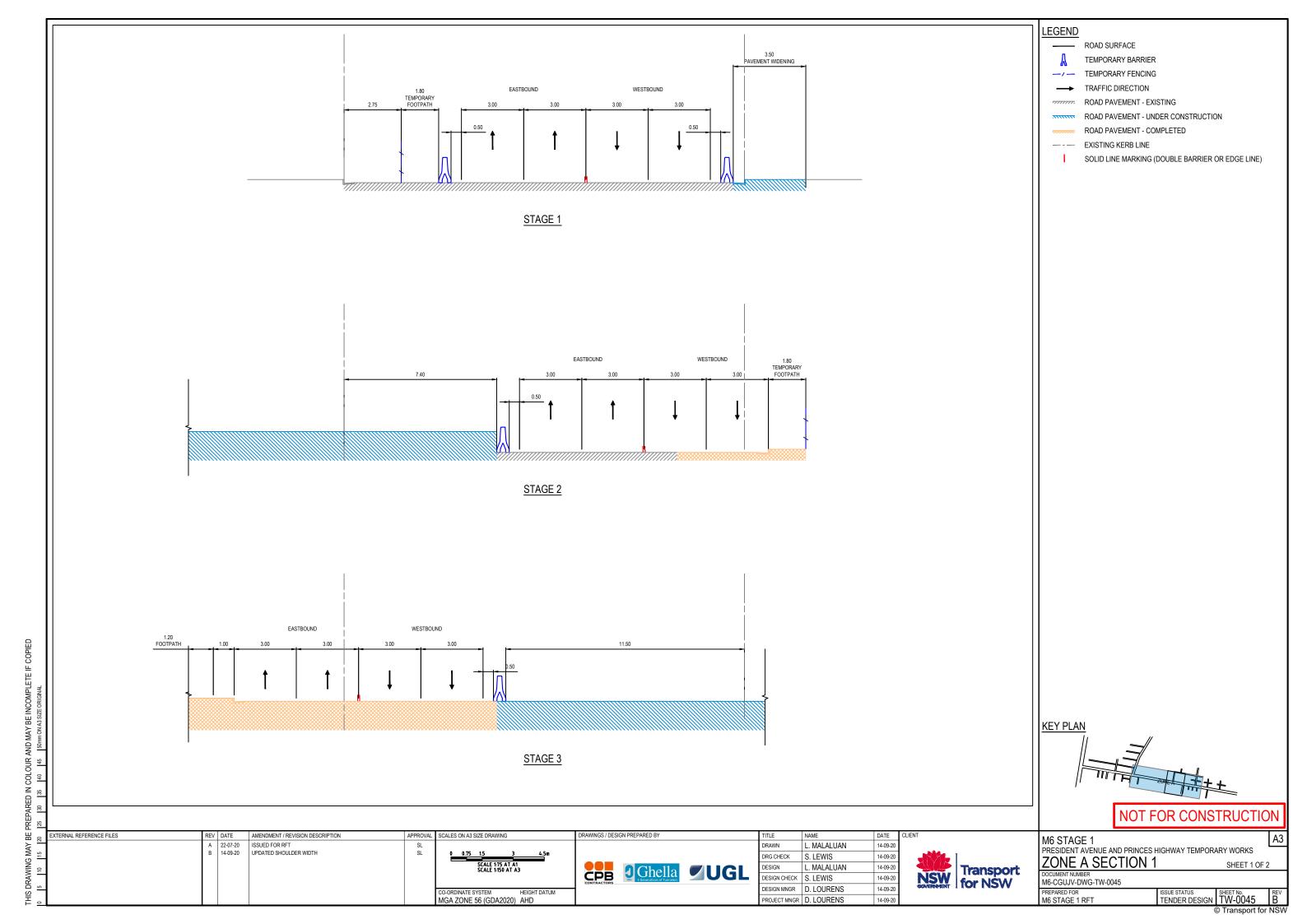


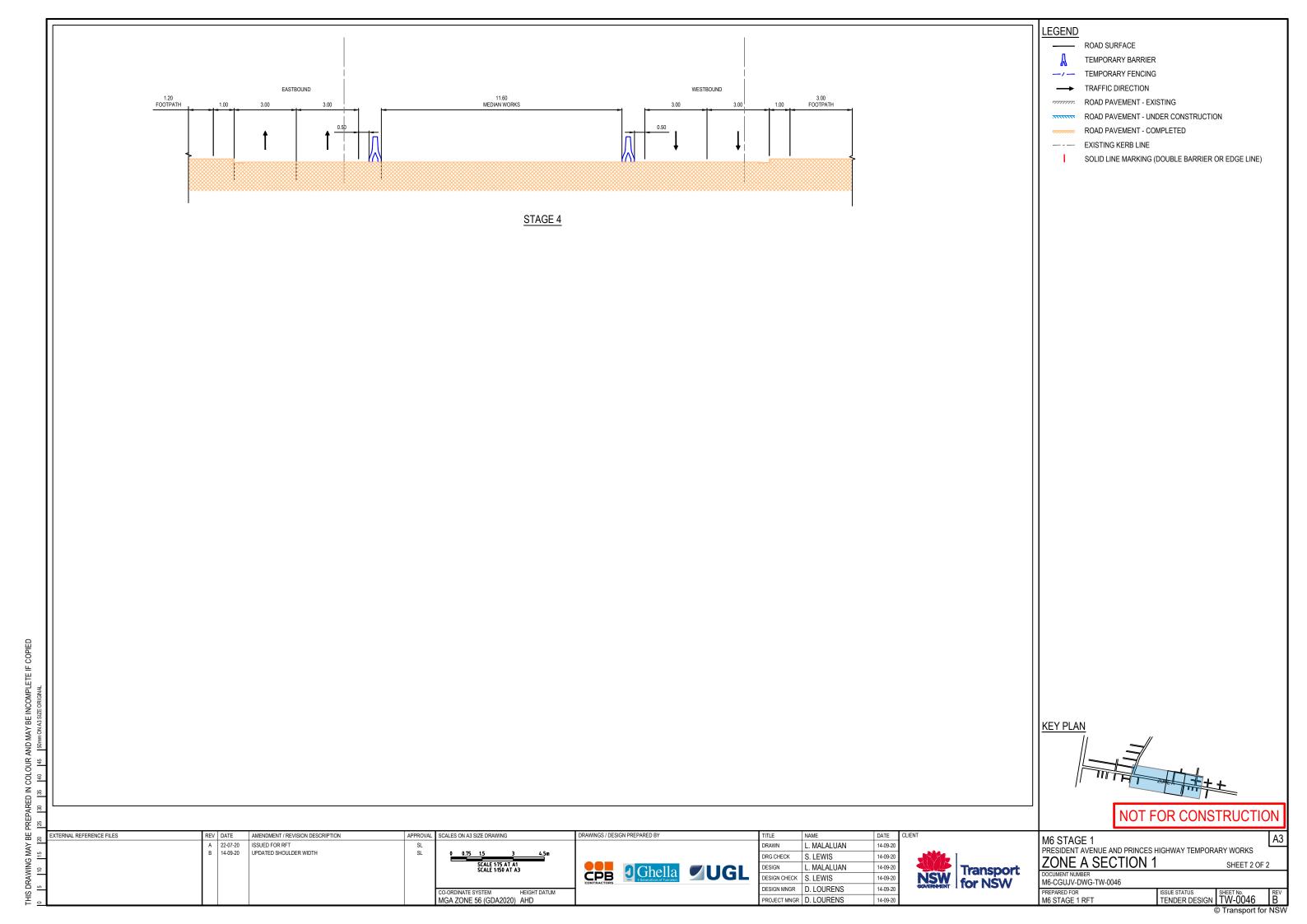


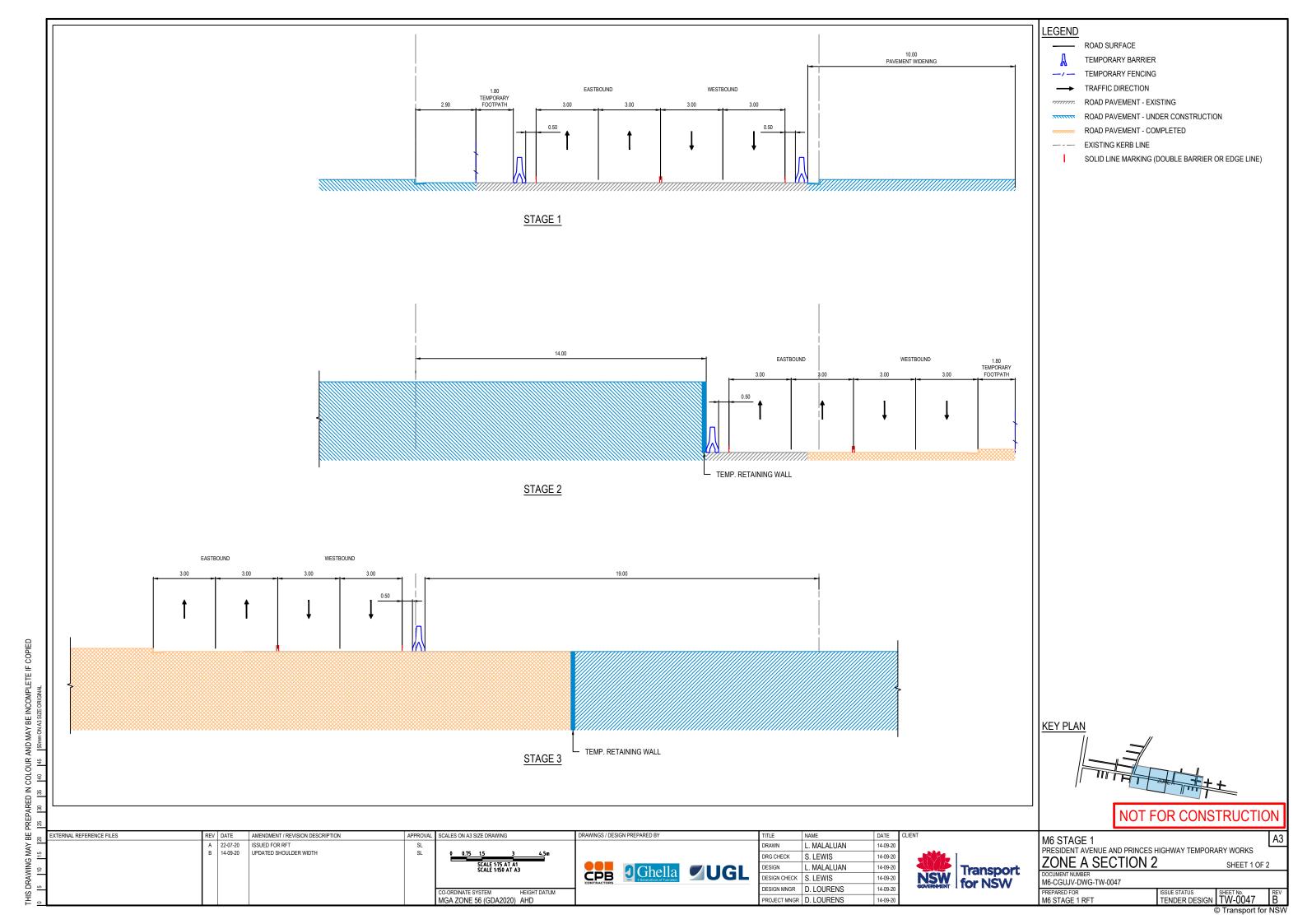


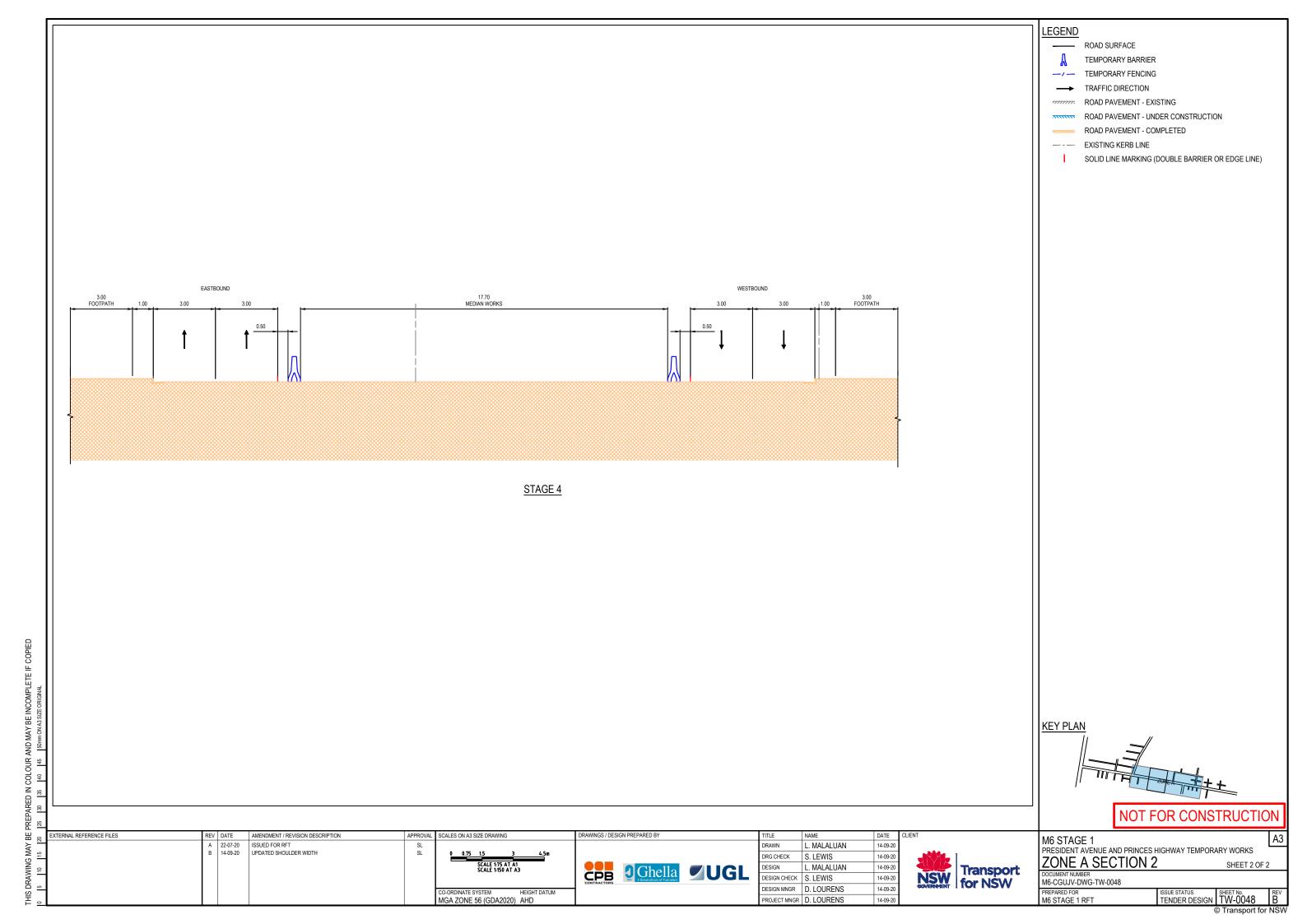


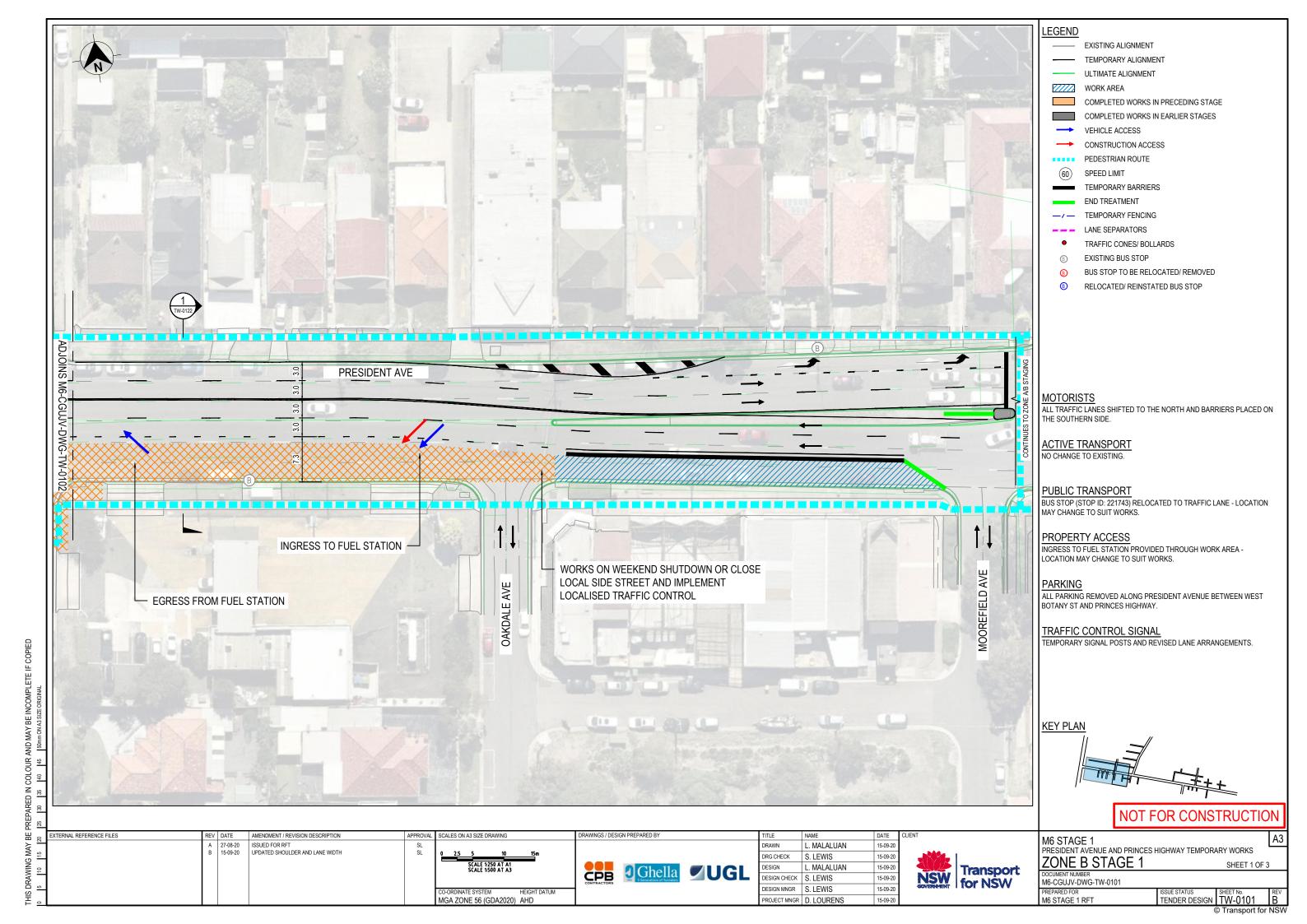


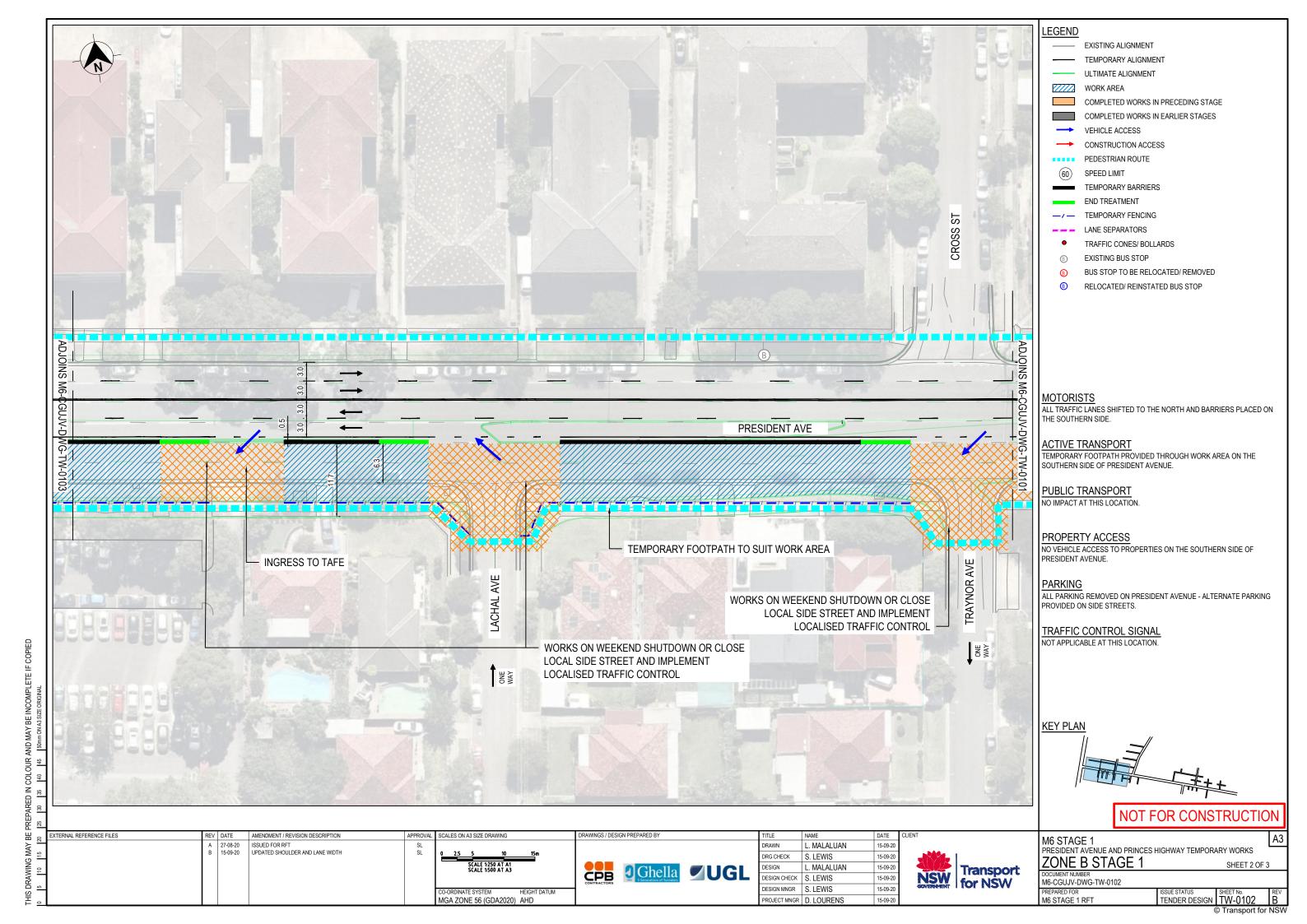


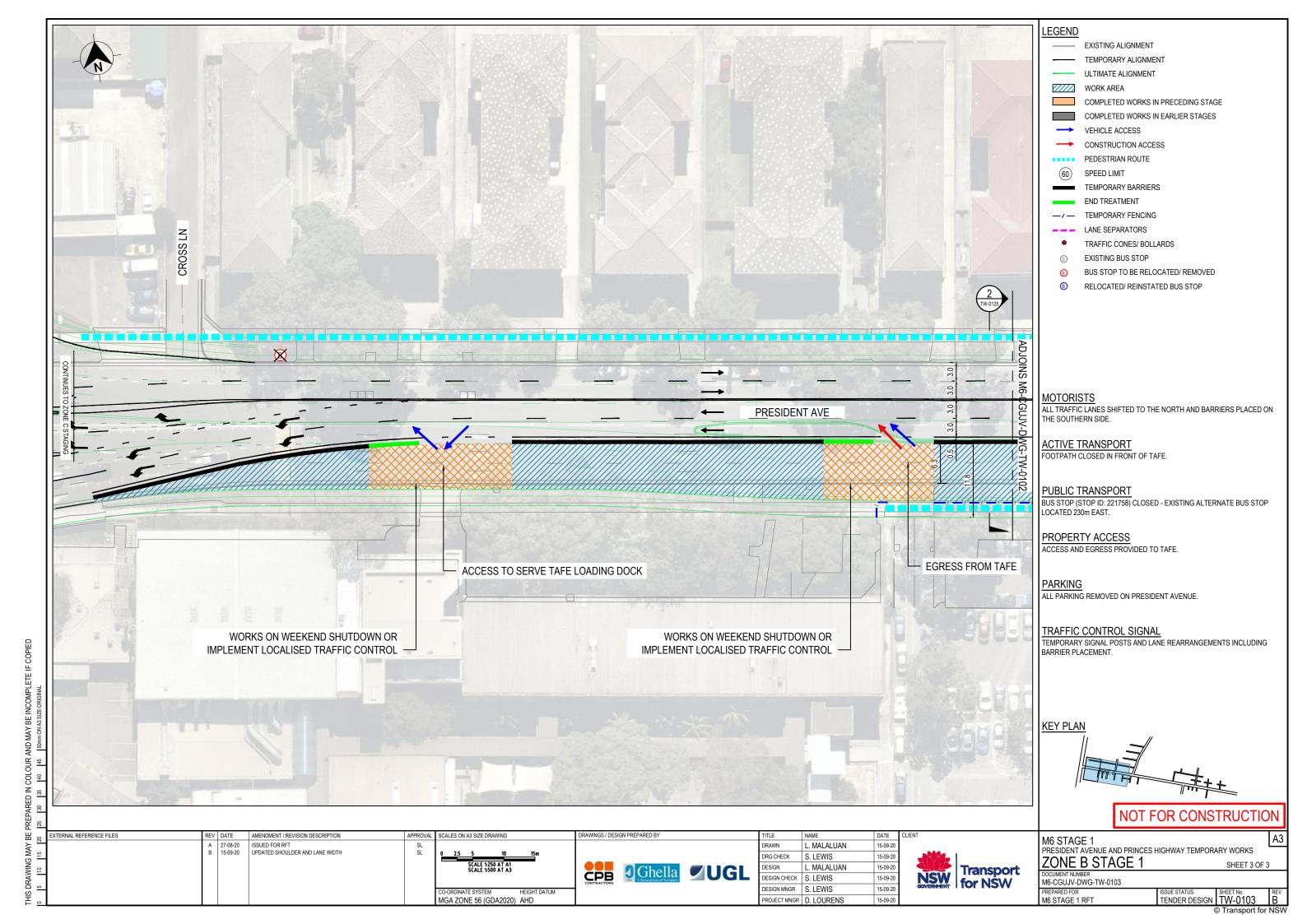


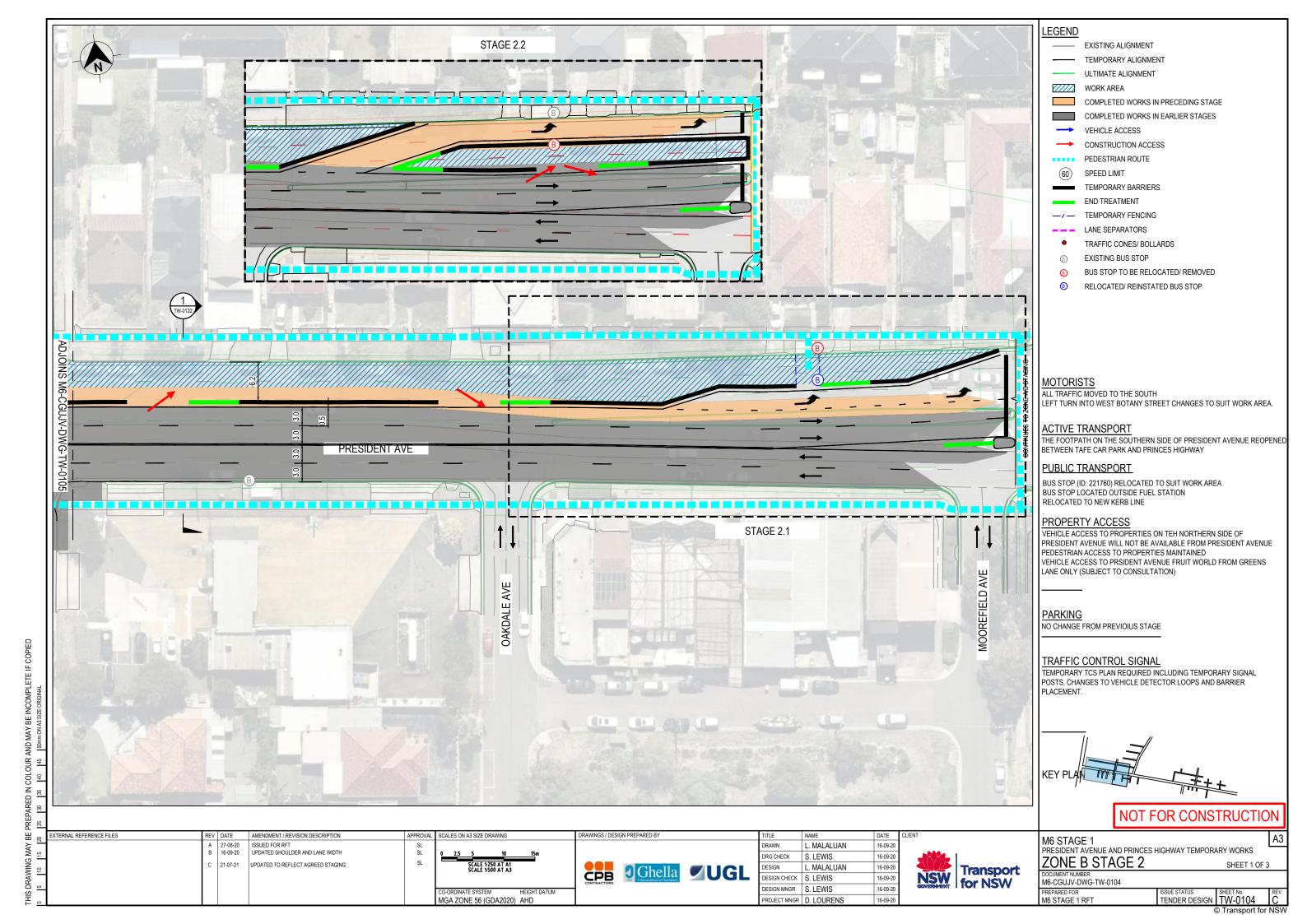


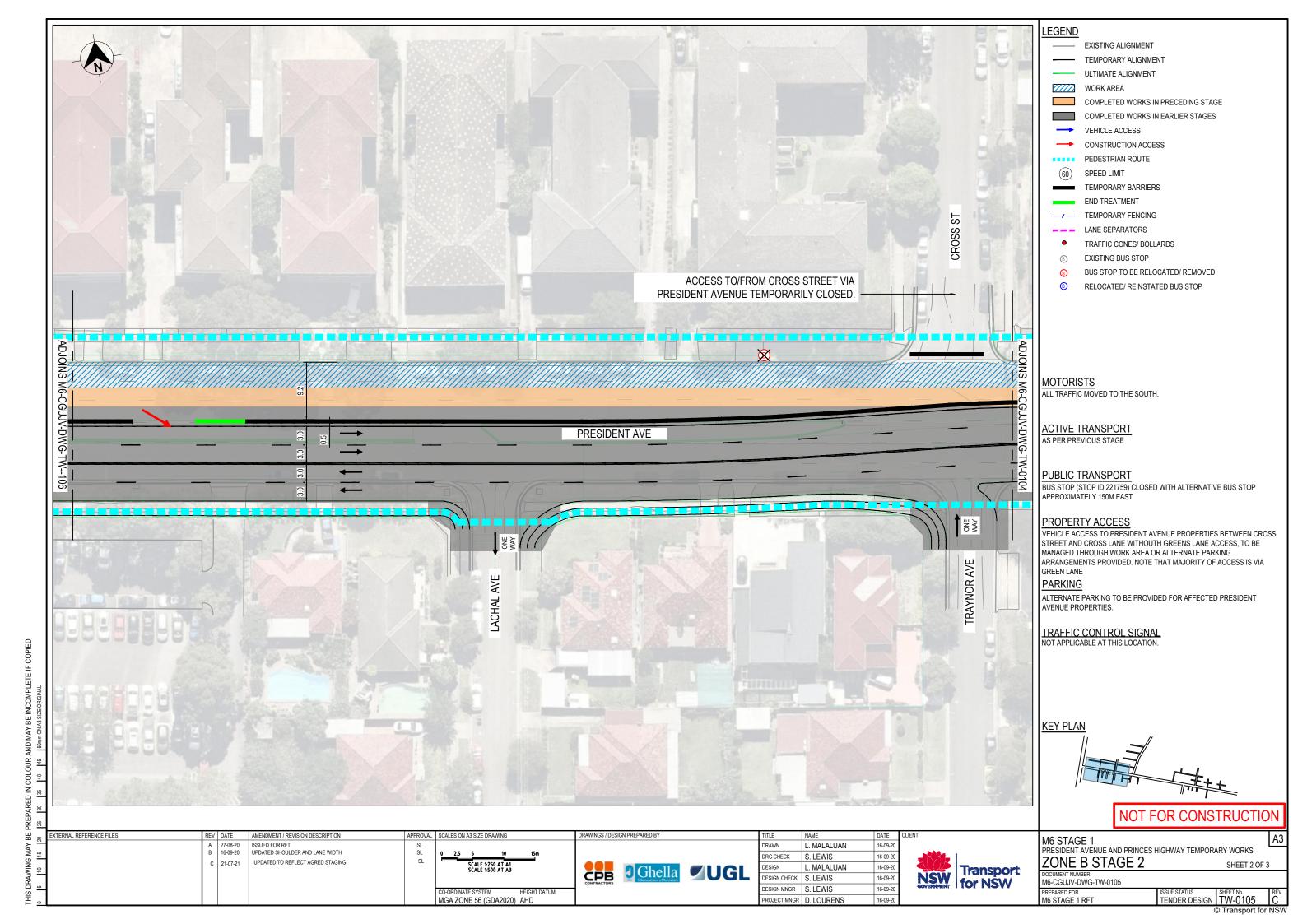


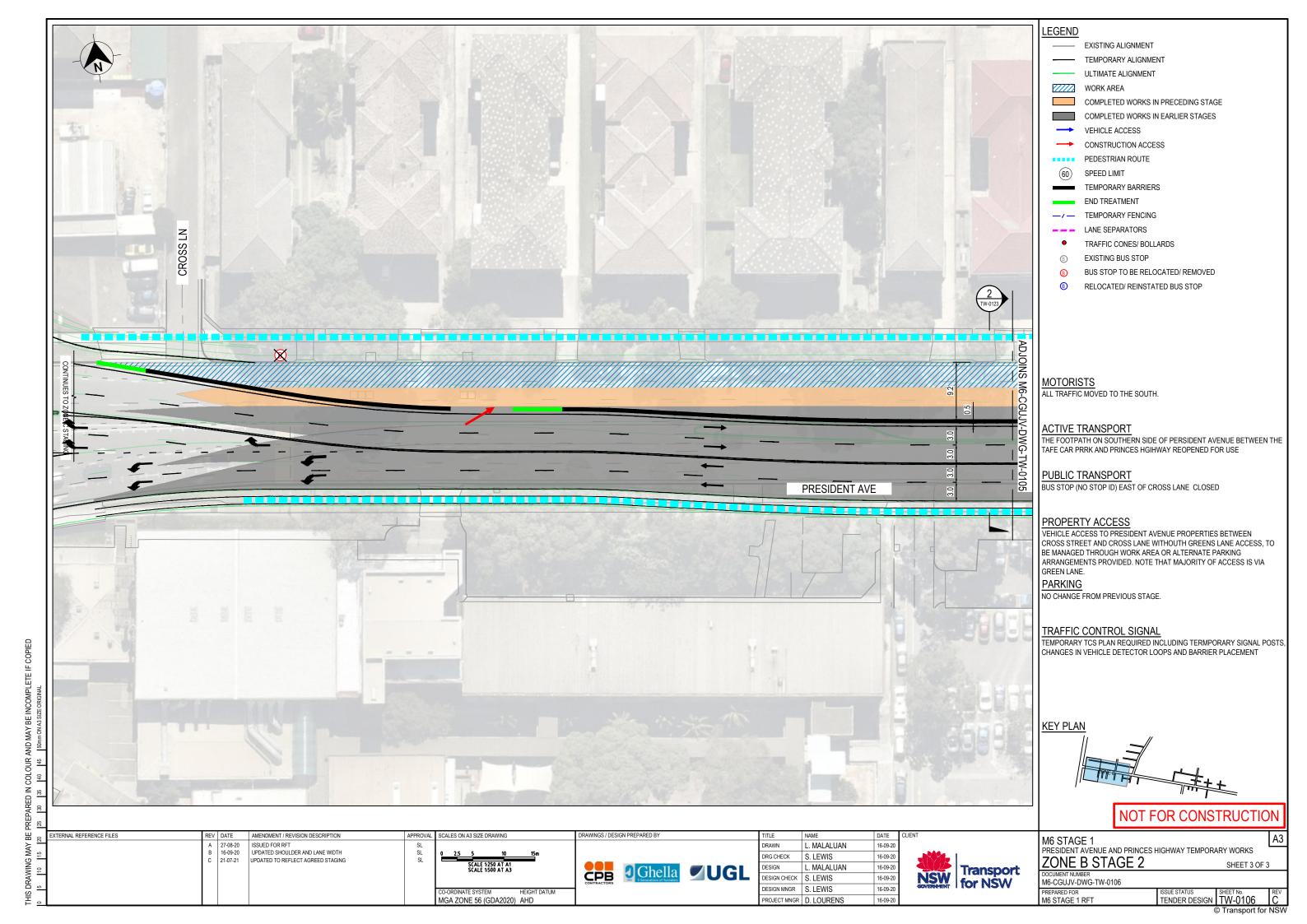


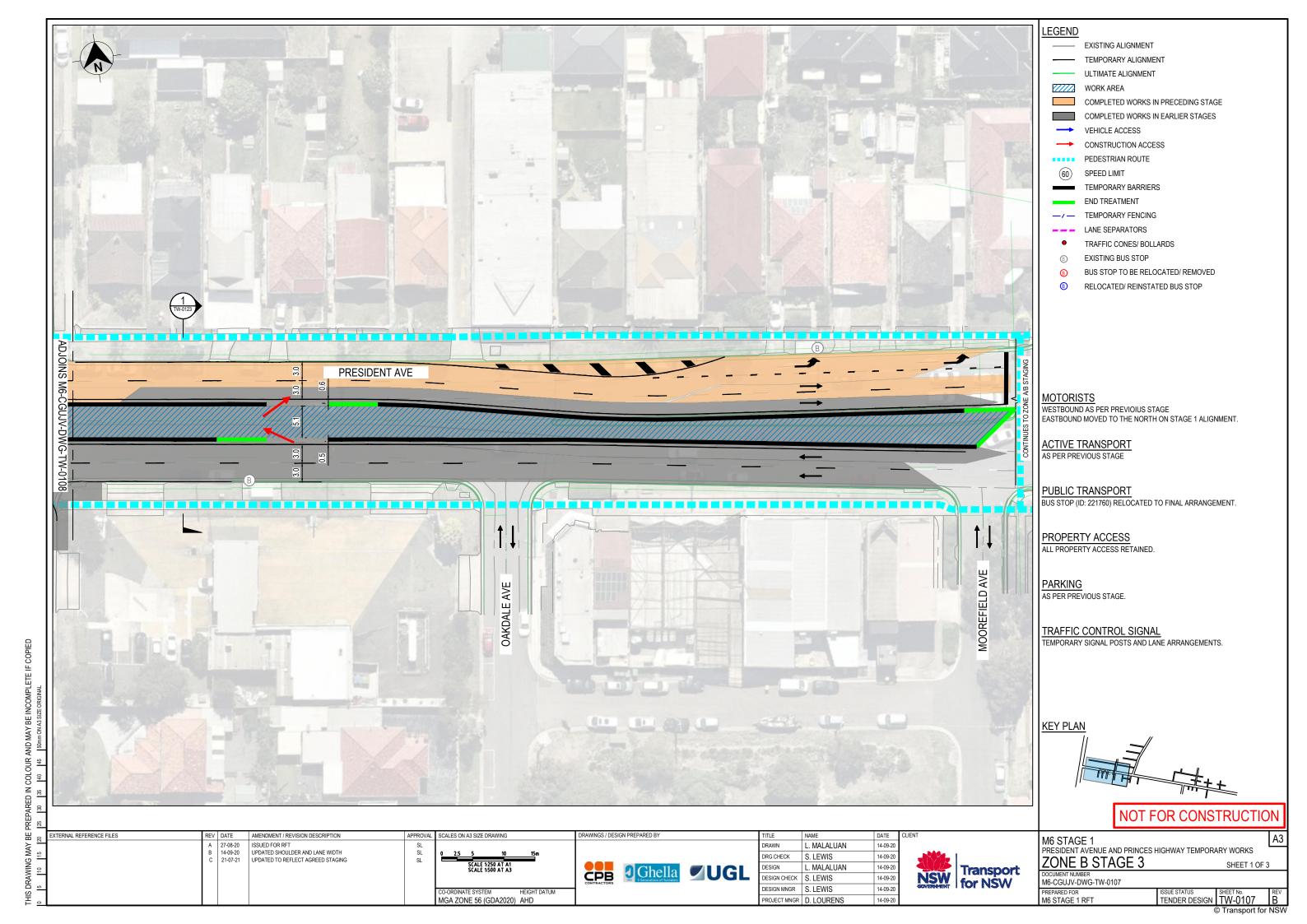


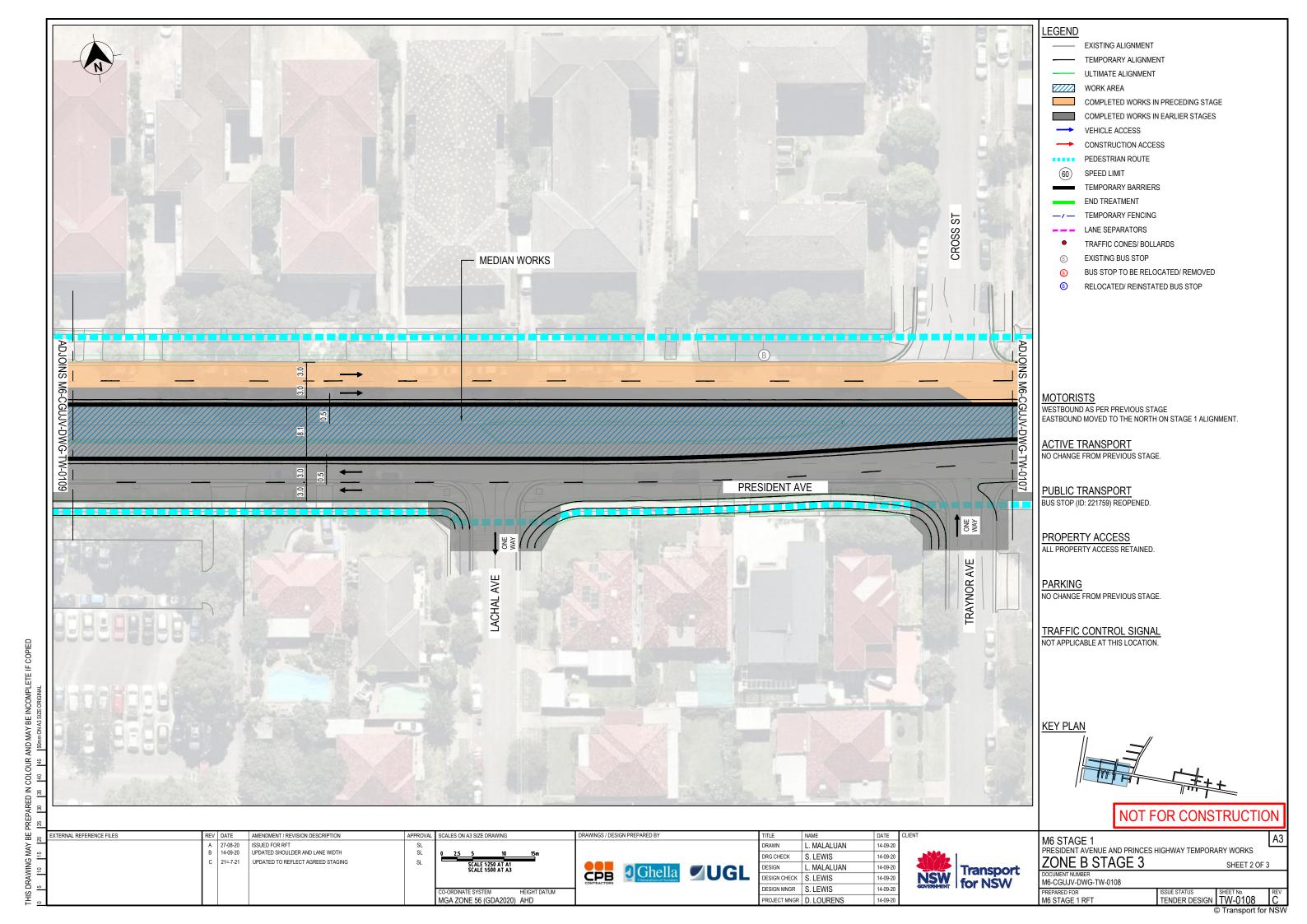


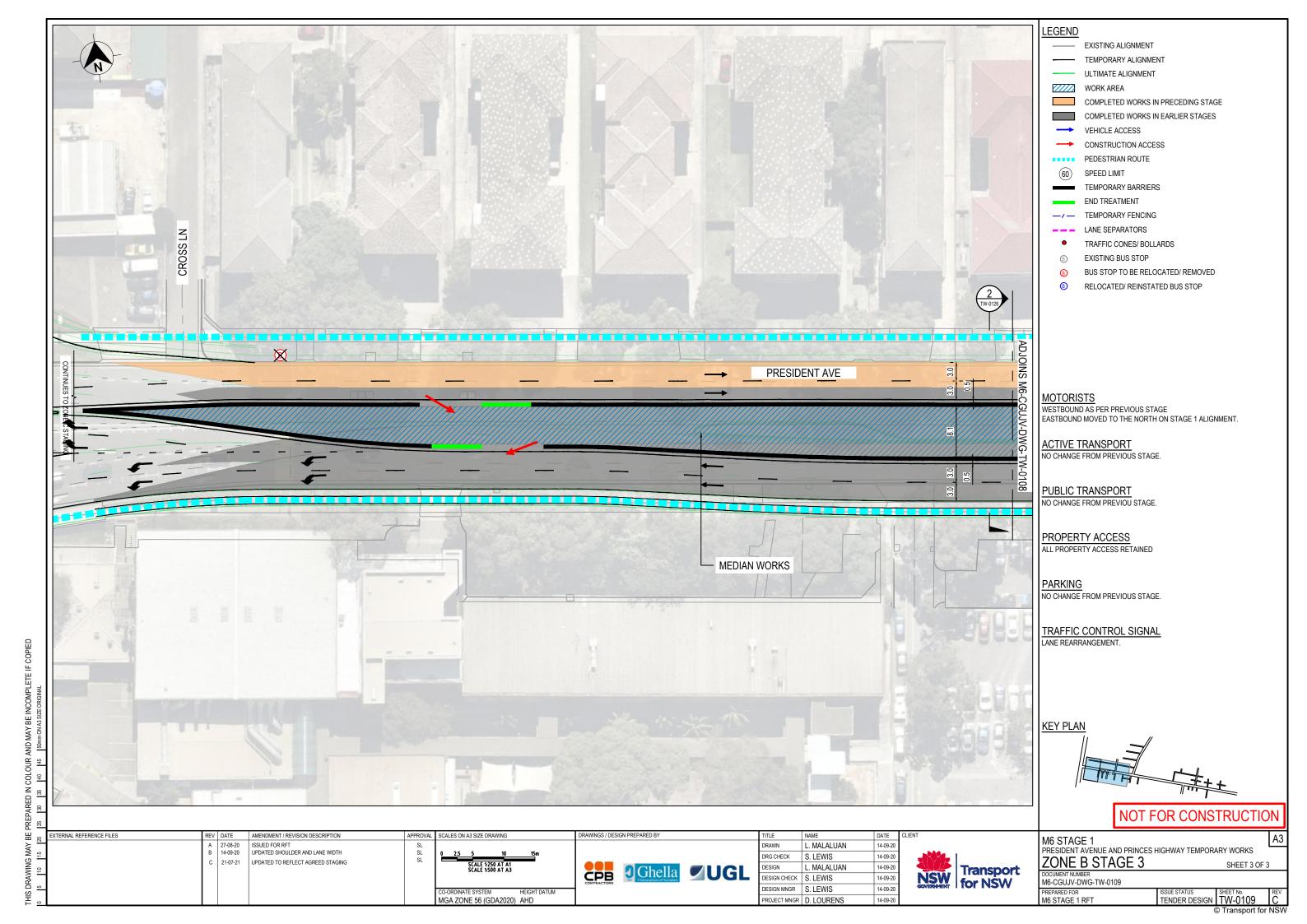


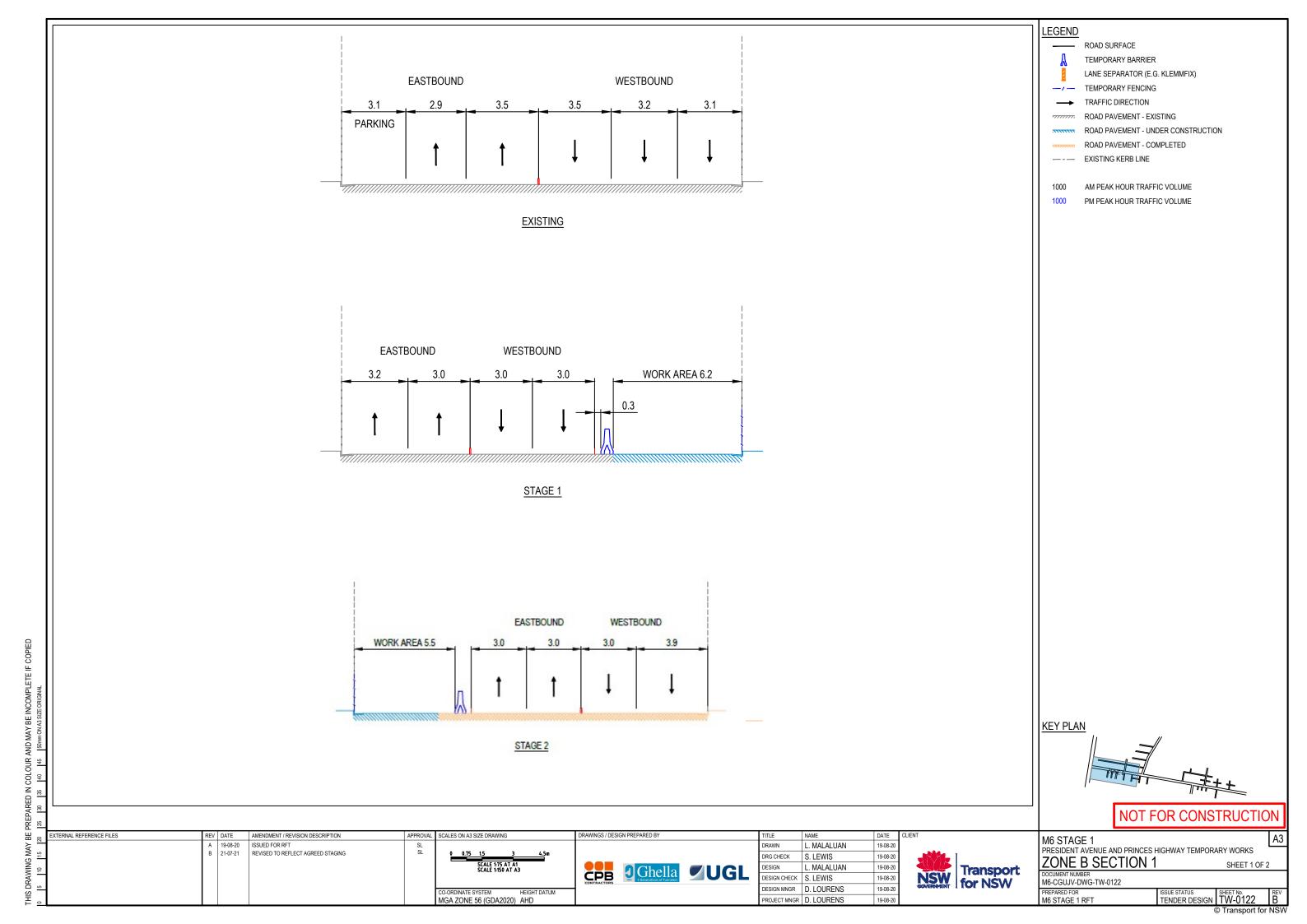


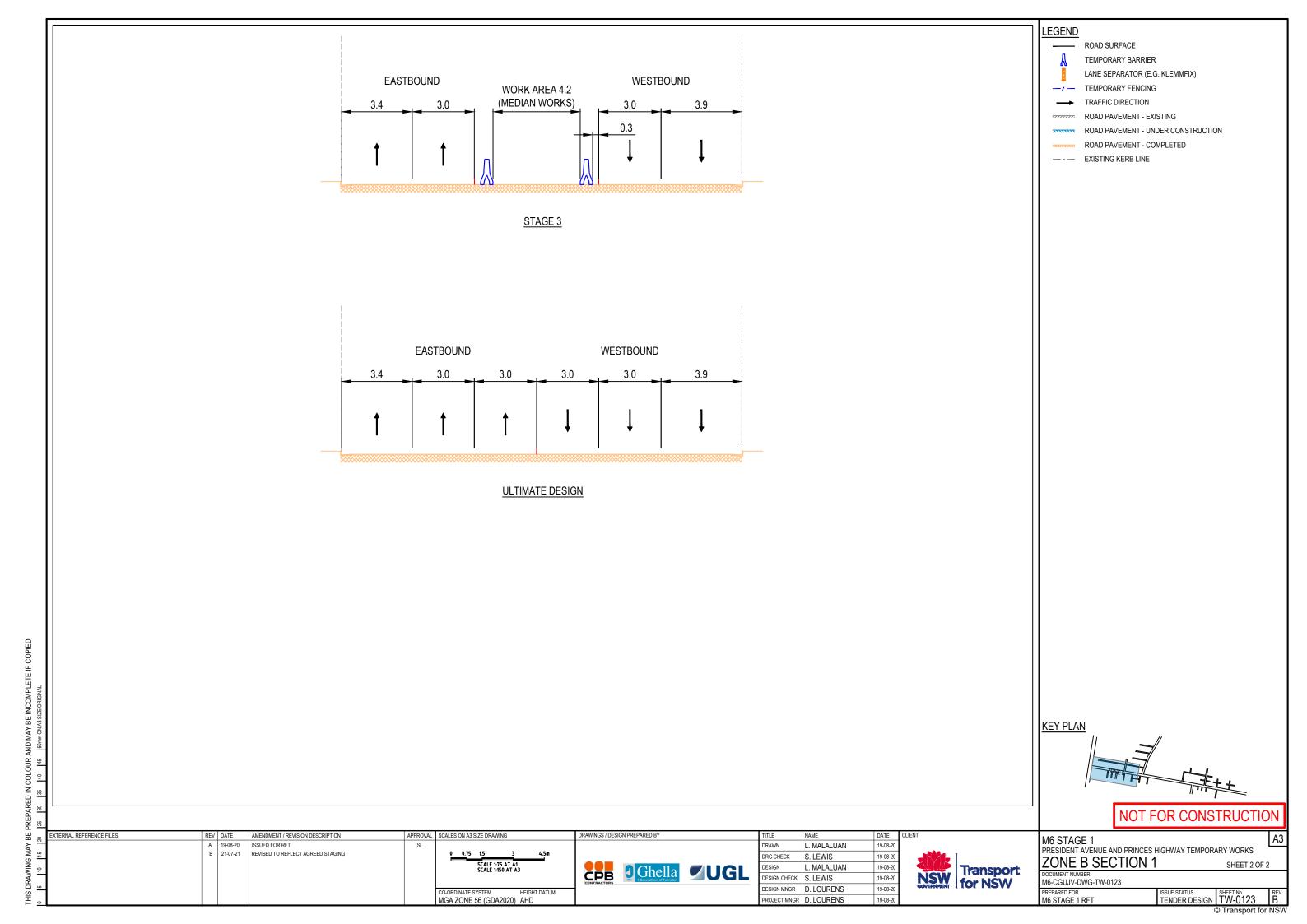


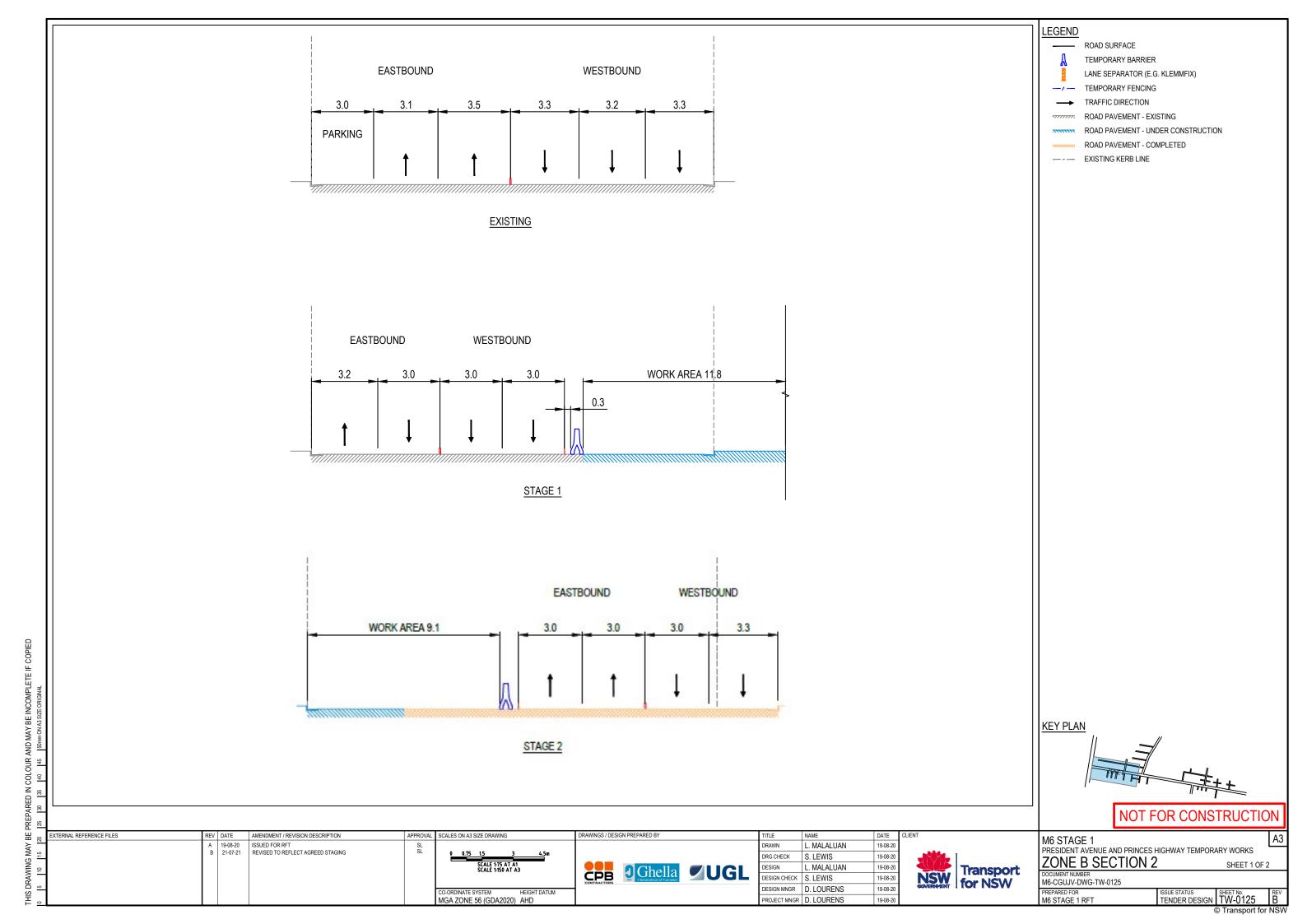


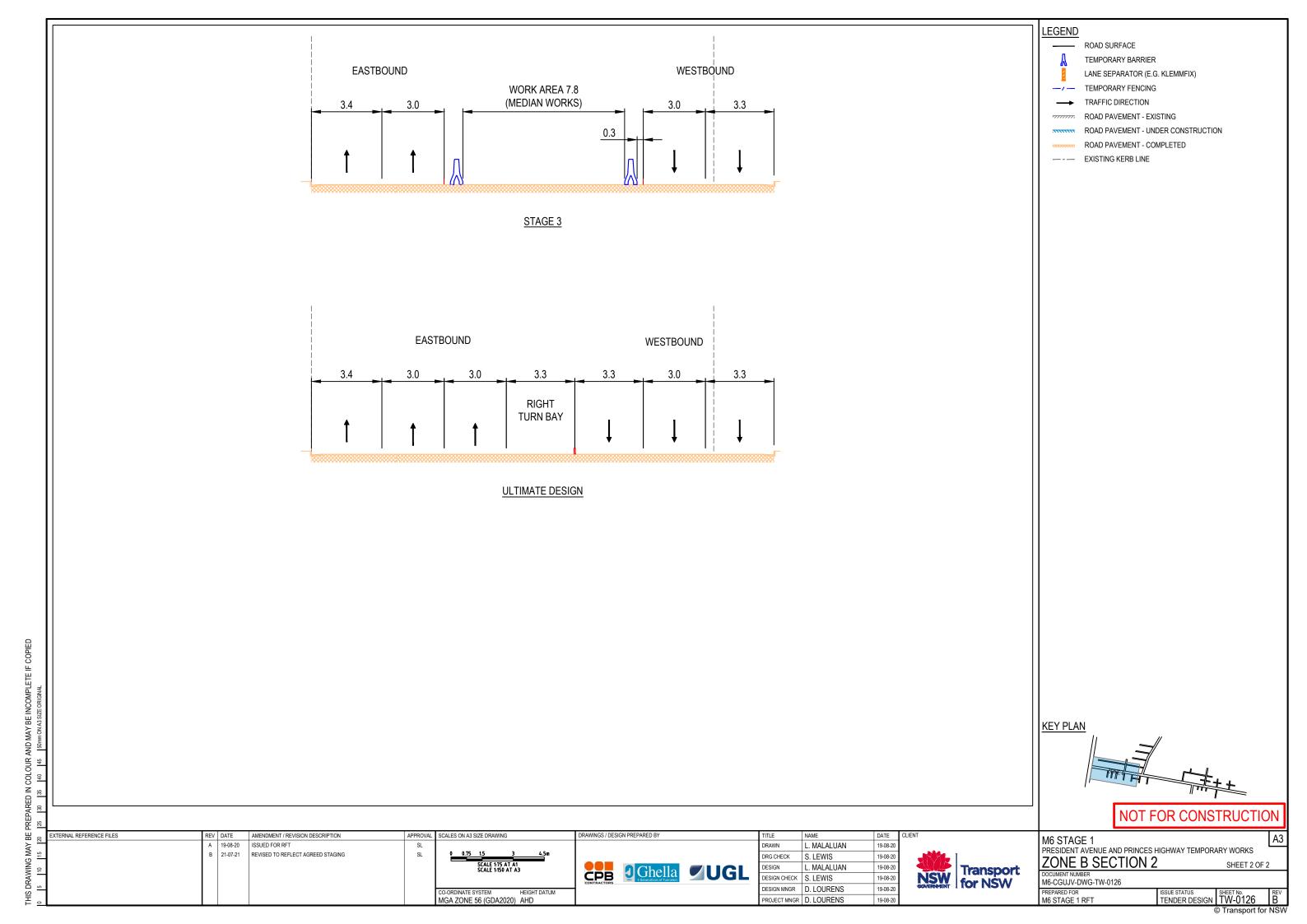


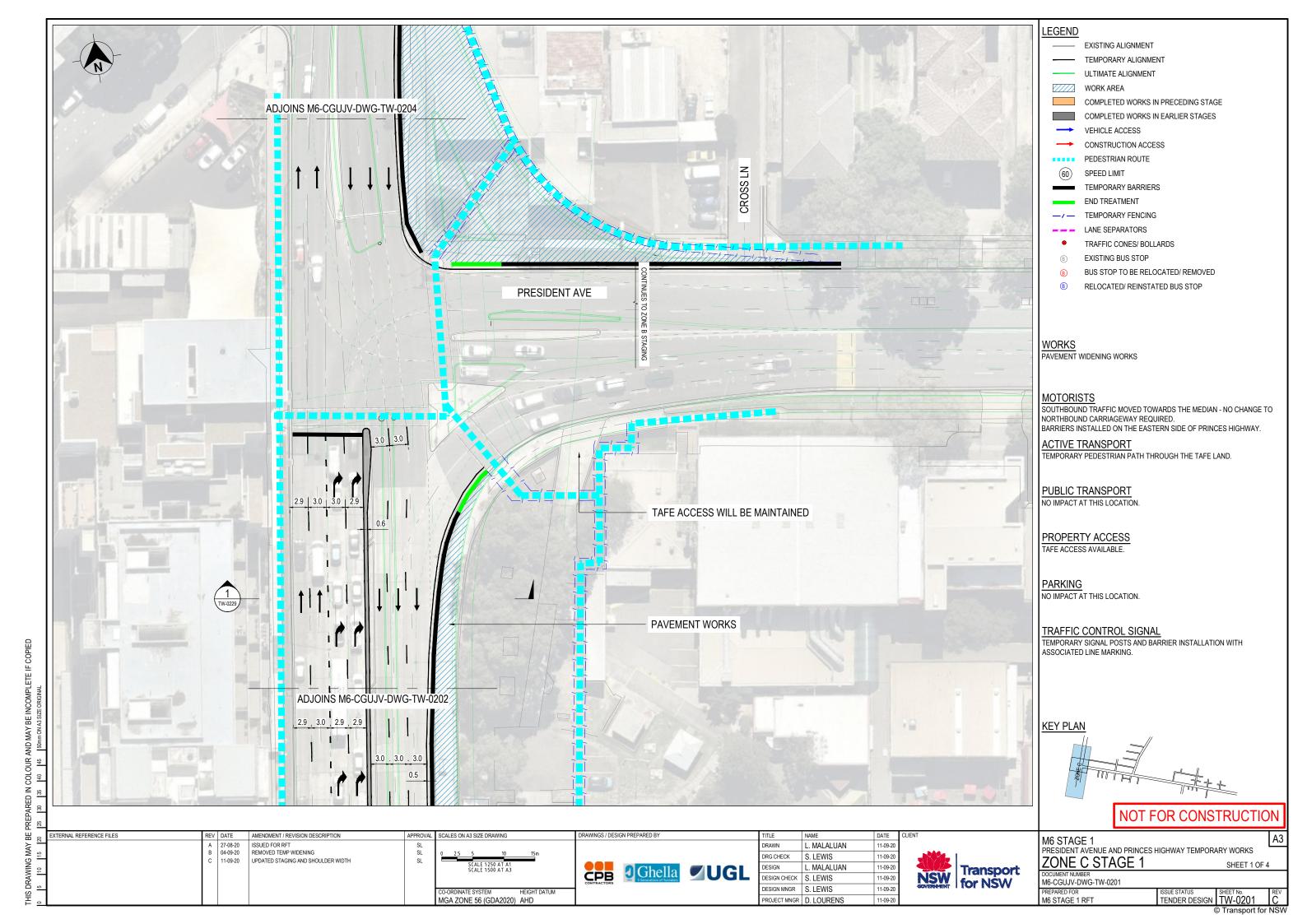


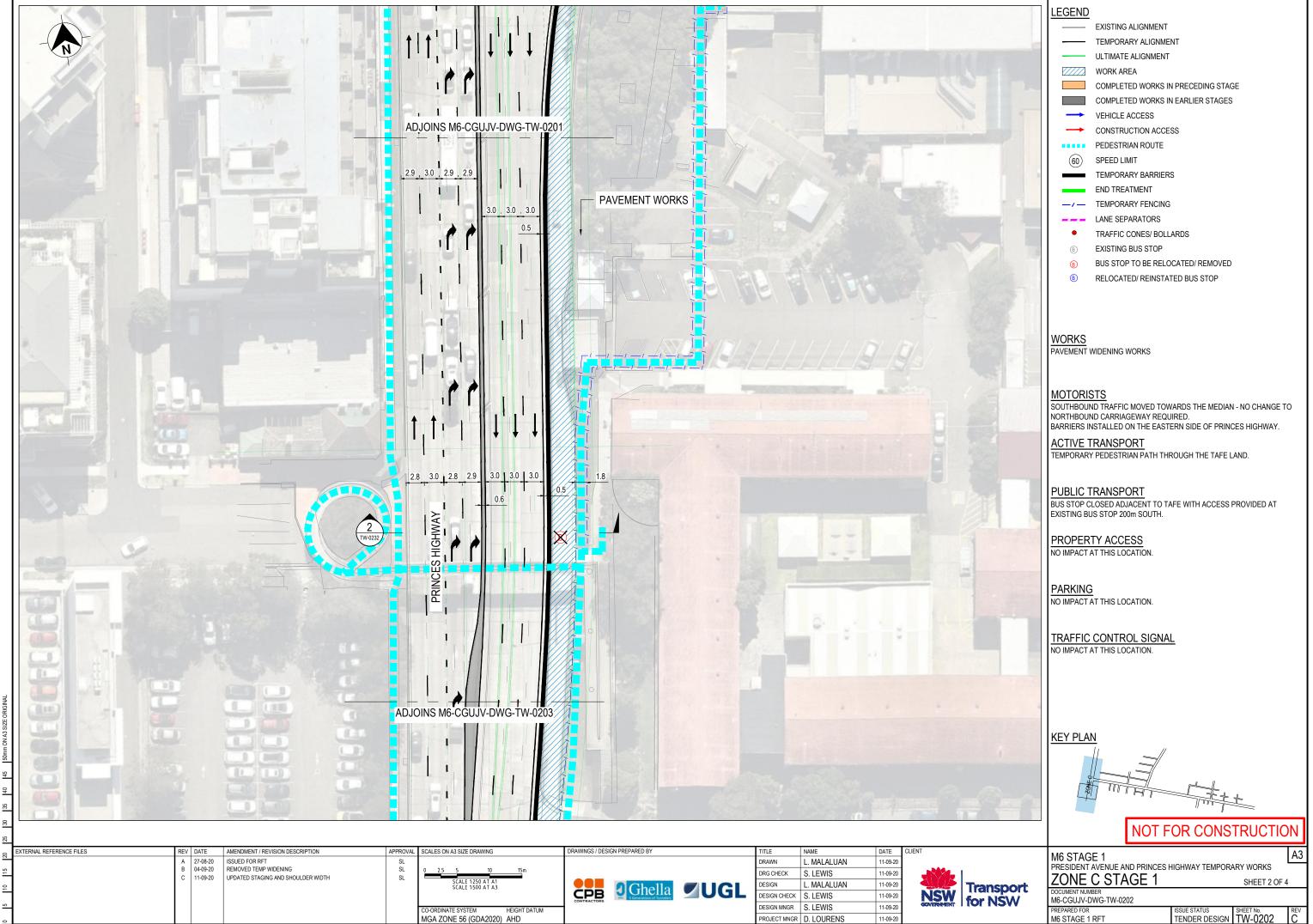


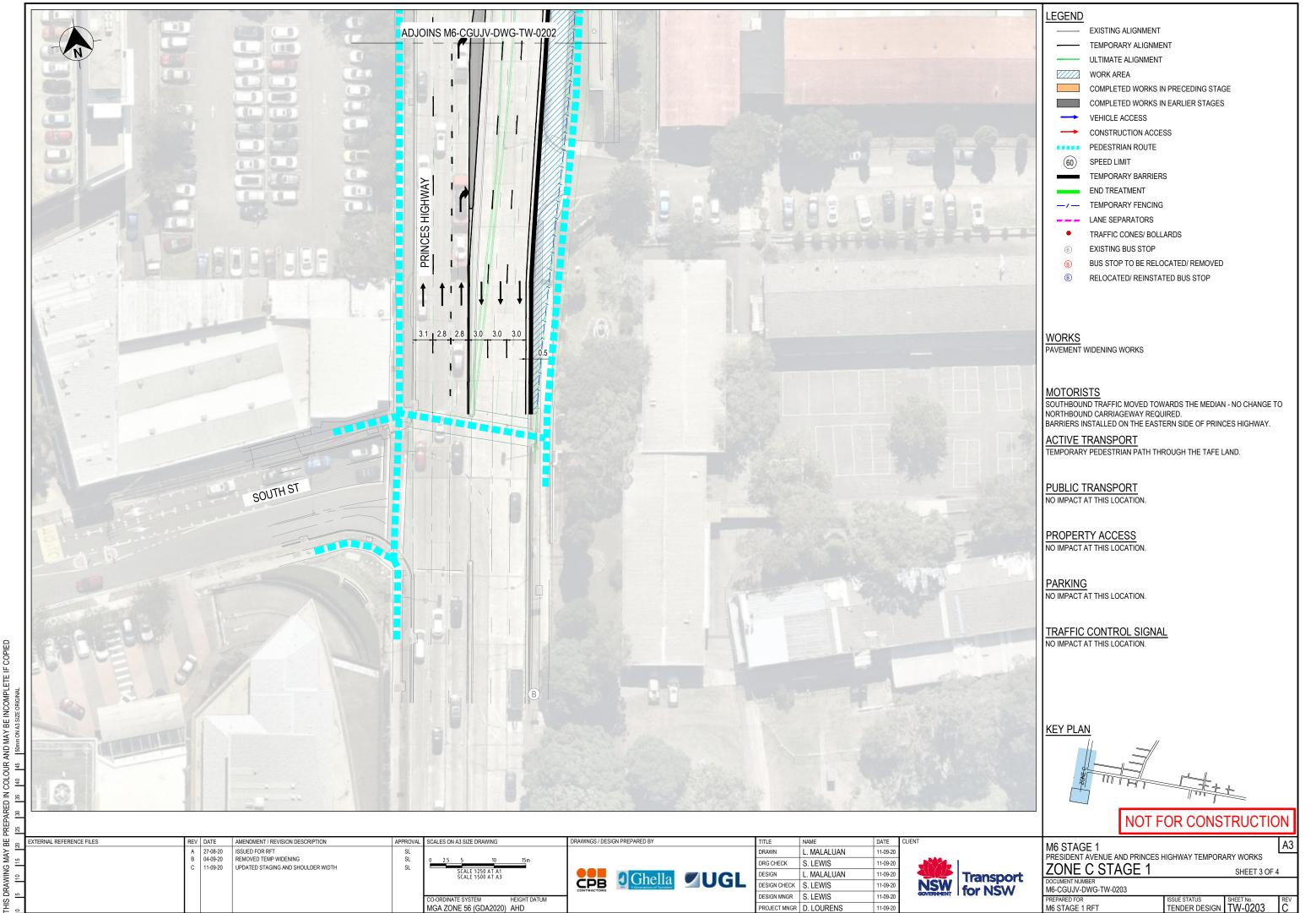


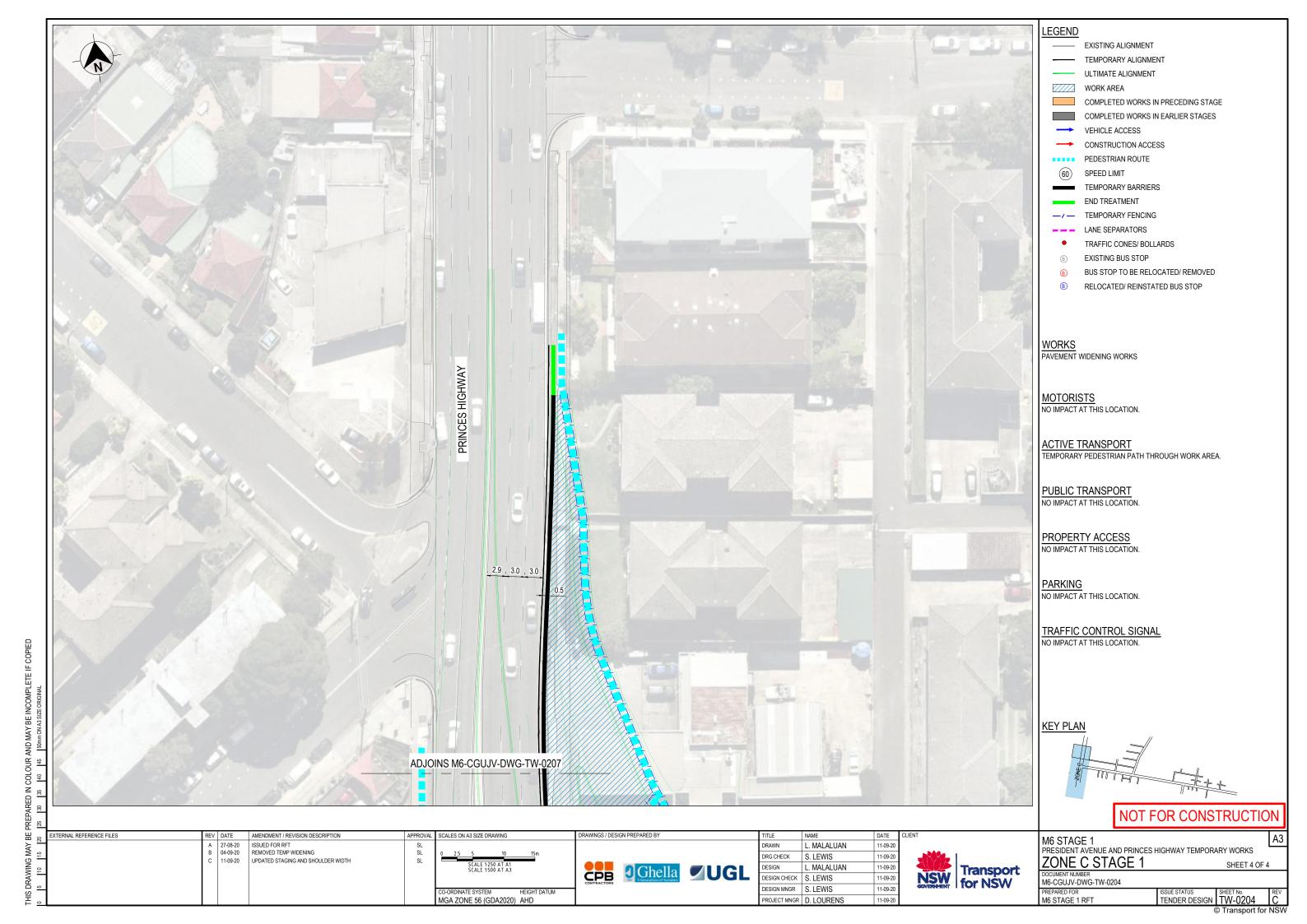


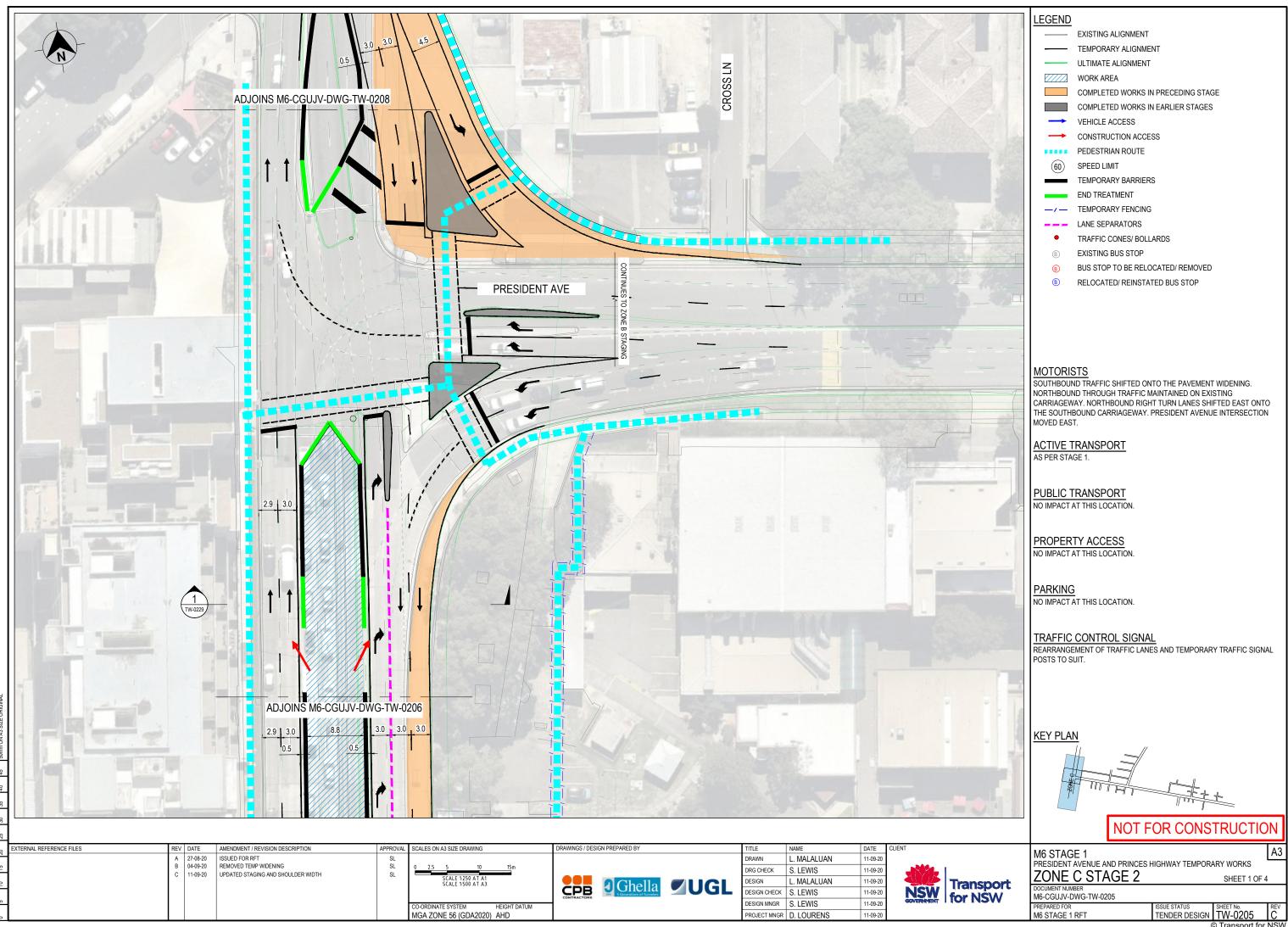


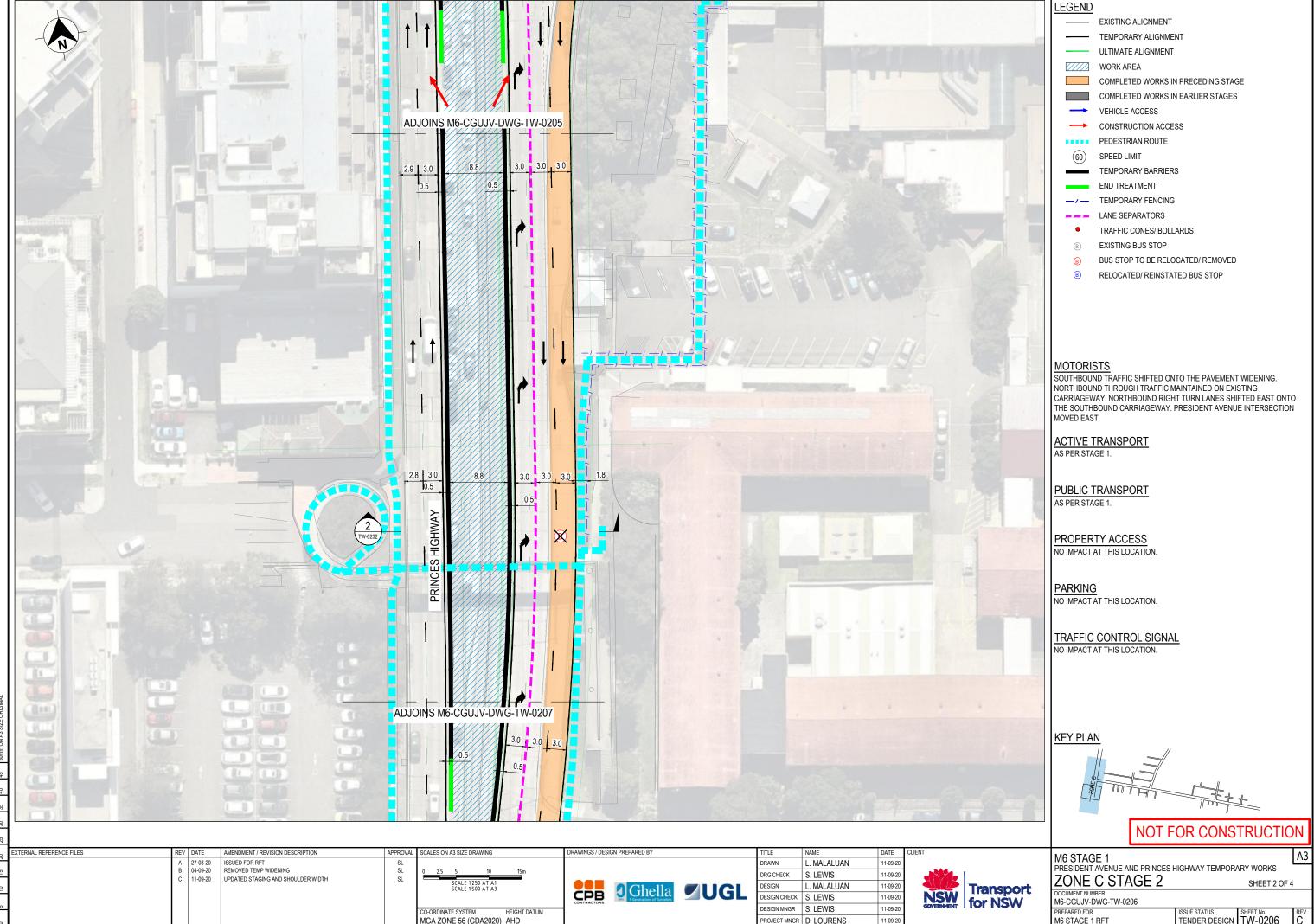




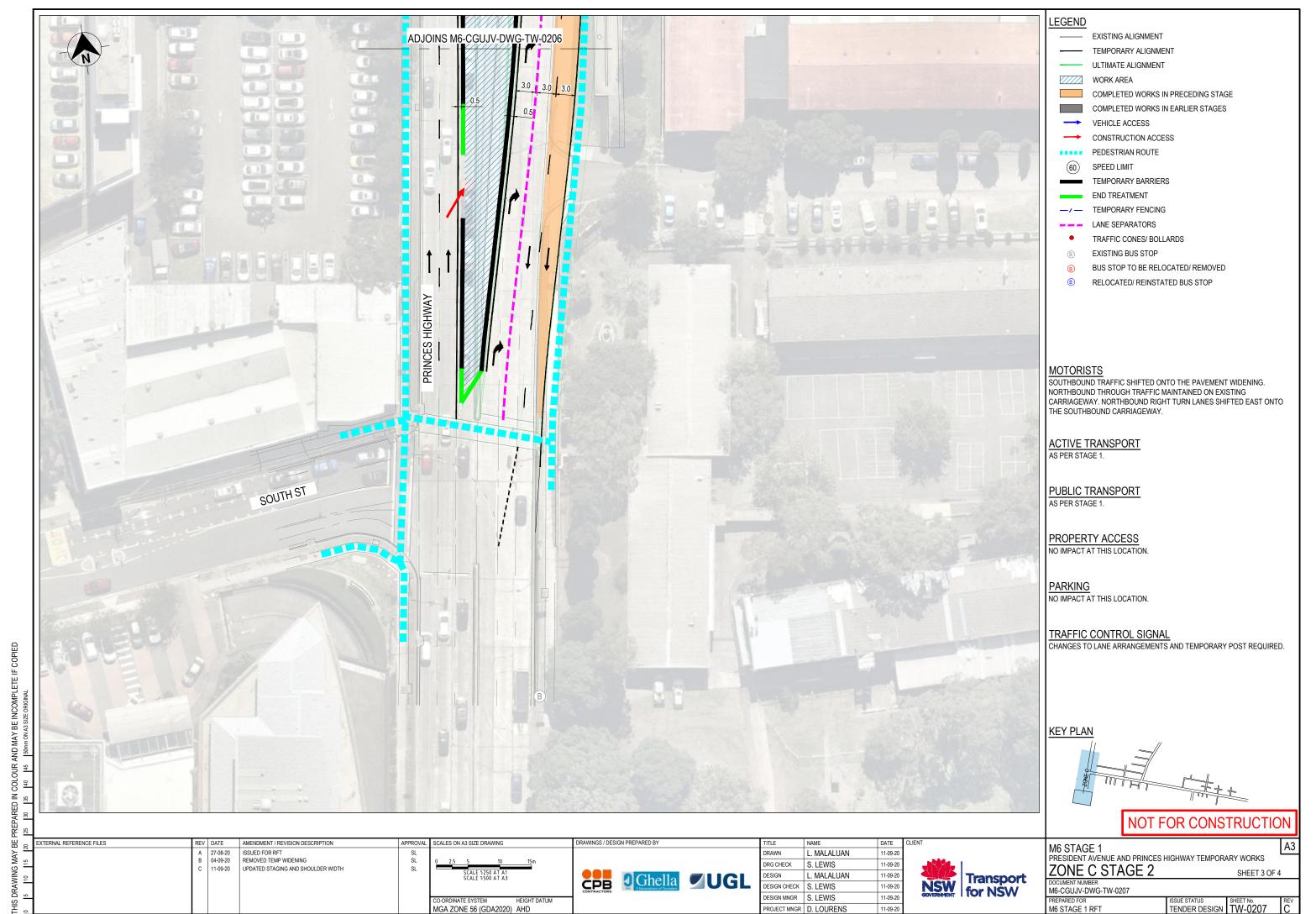


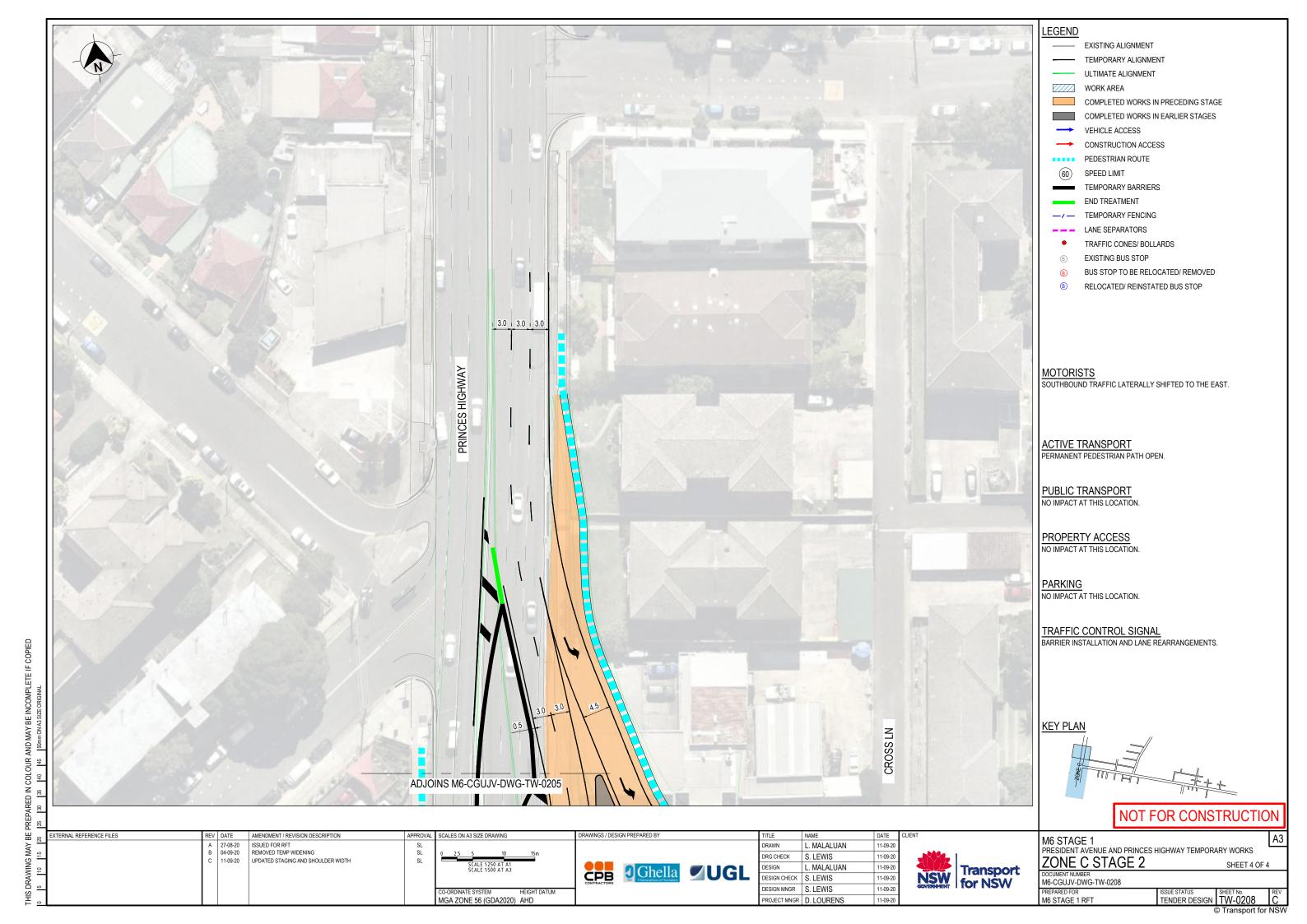


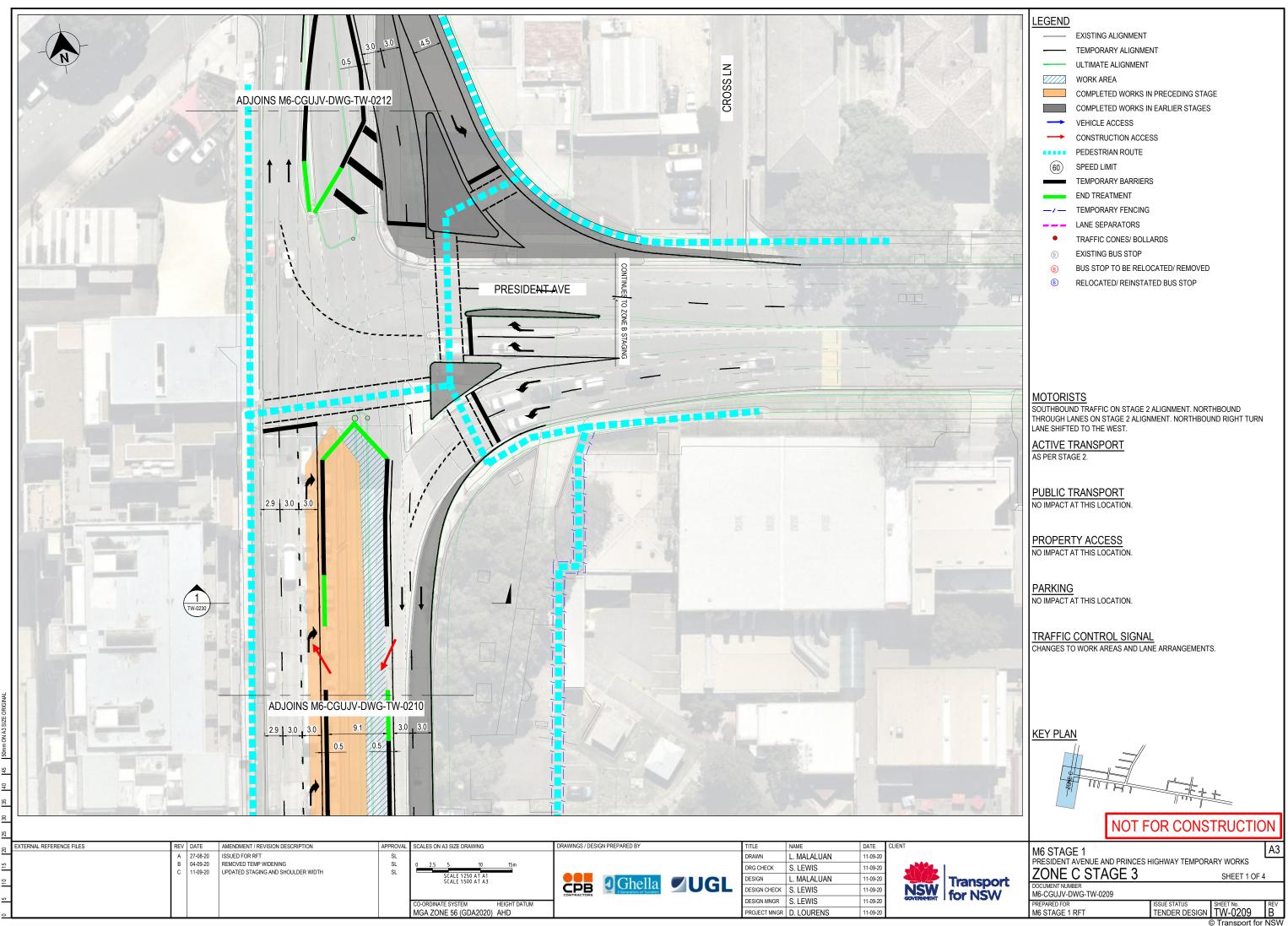


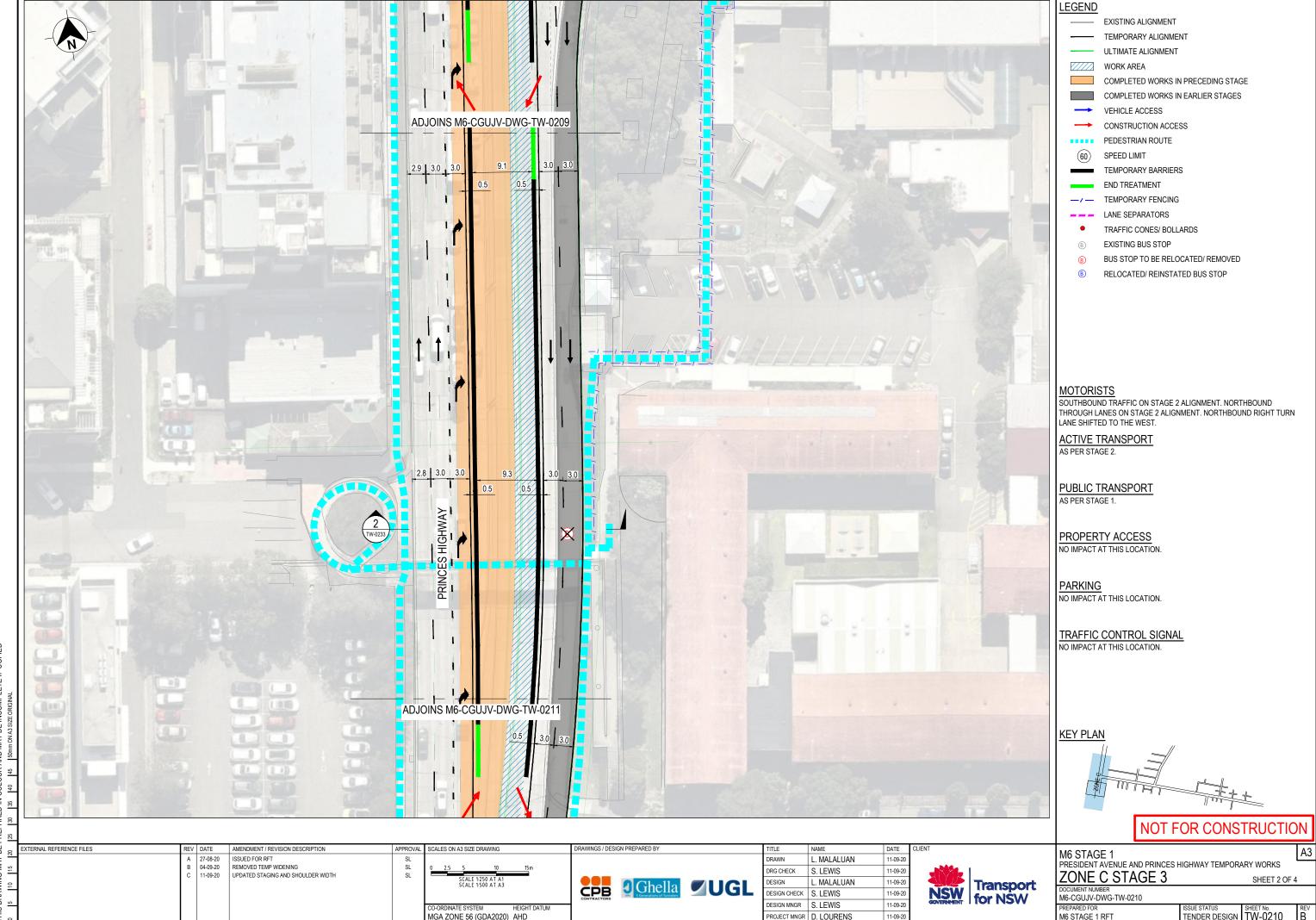


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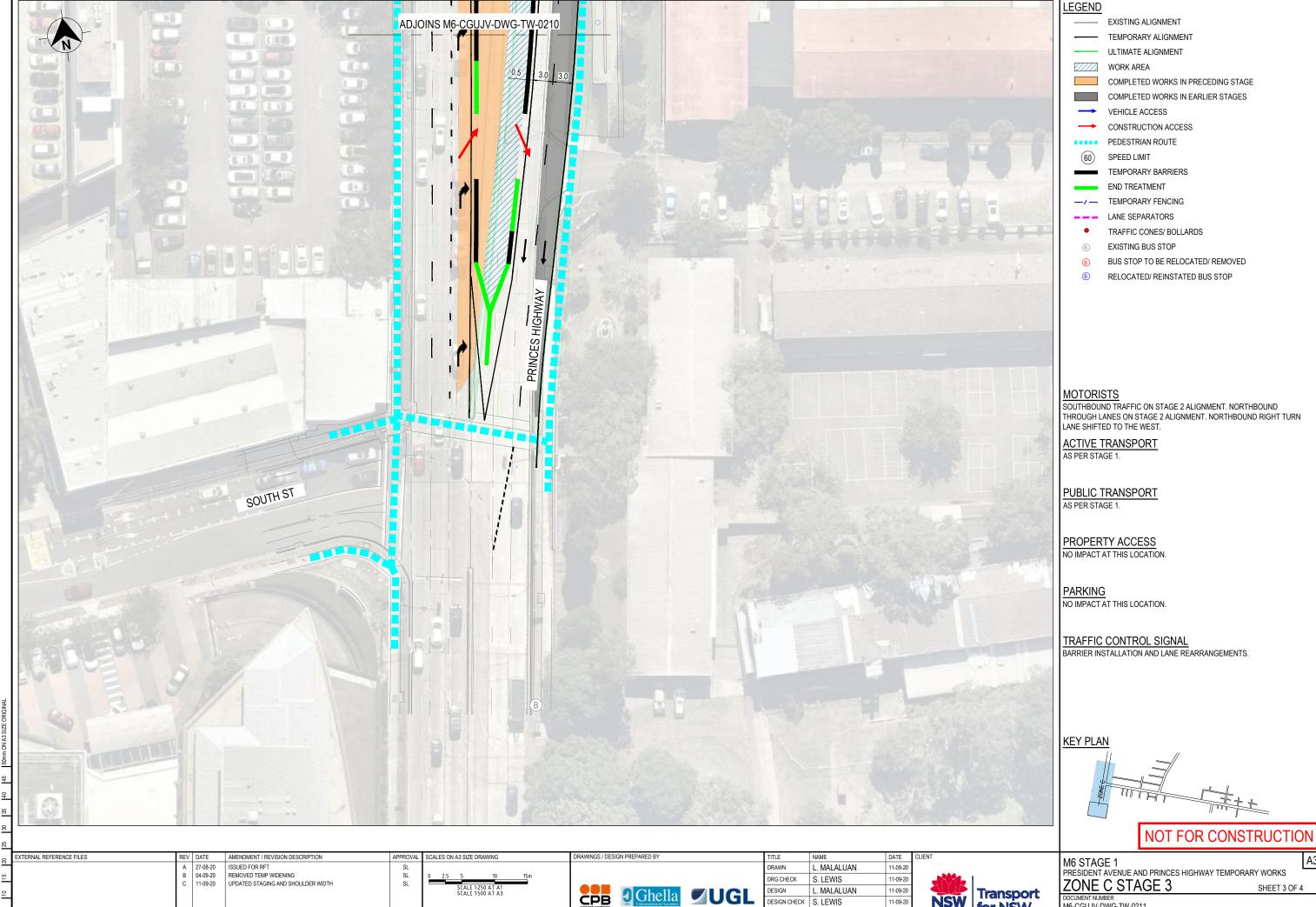








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MGA ZONE 56 (GDA2020) AHD





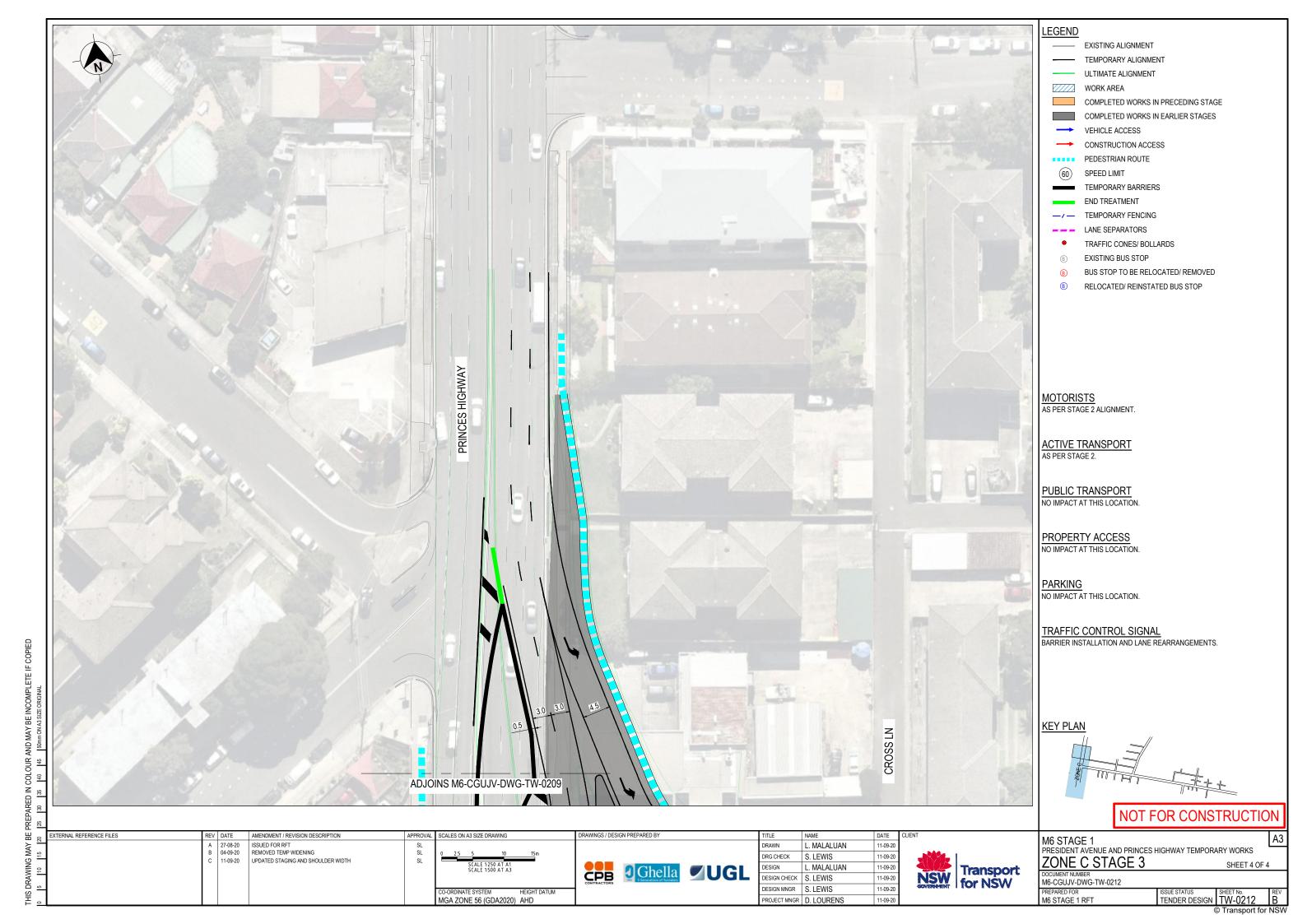
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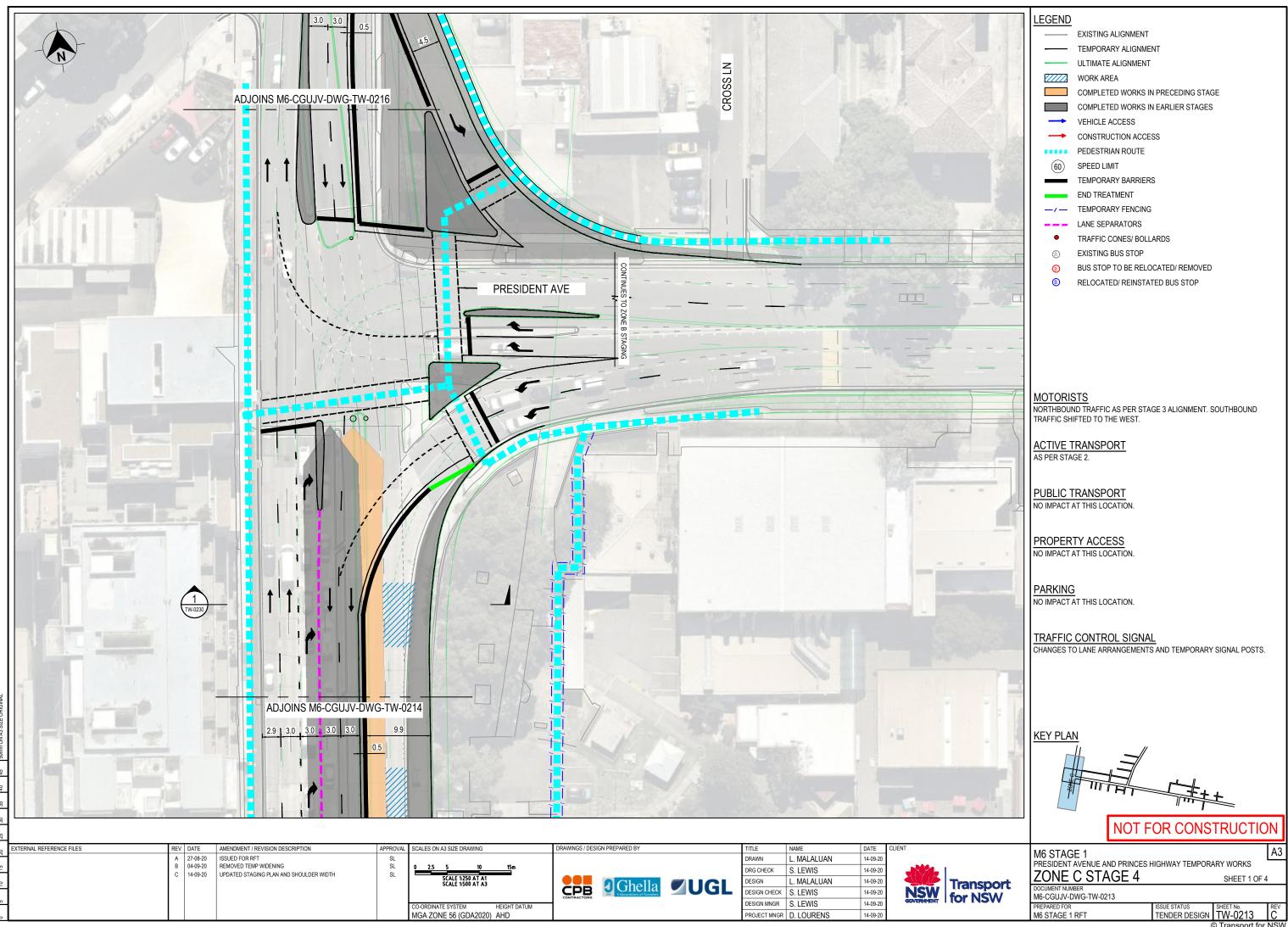
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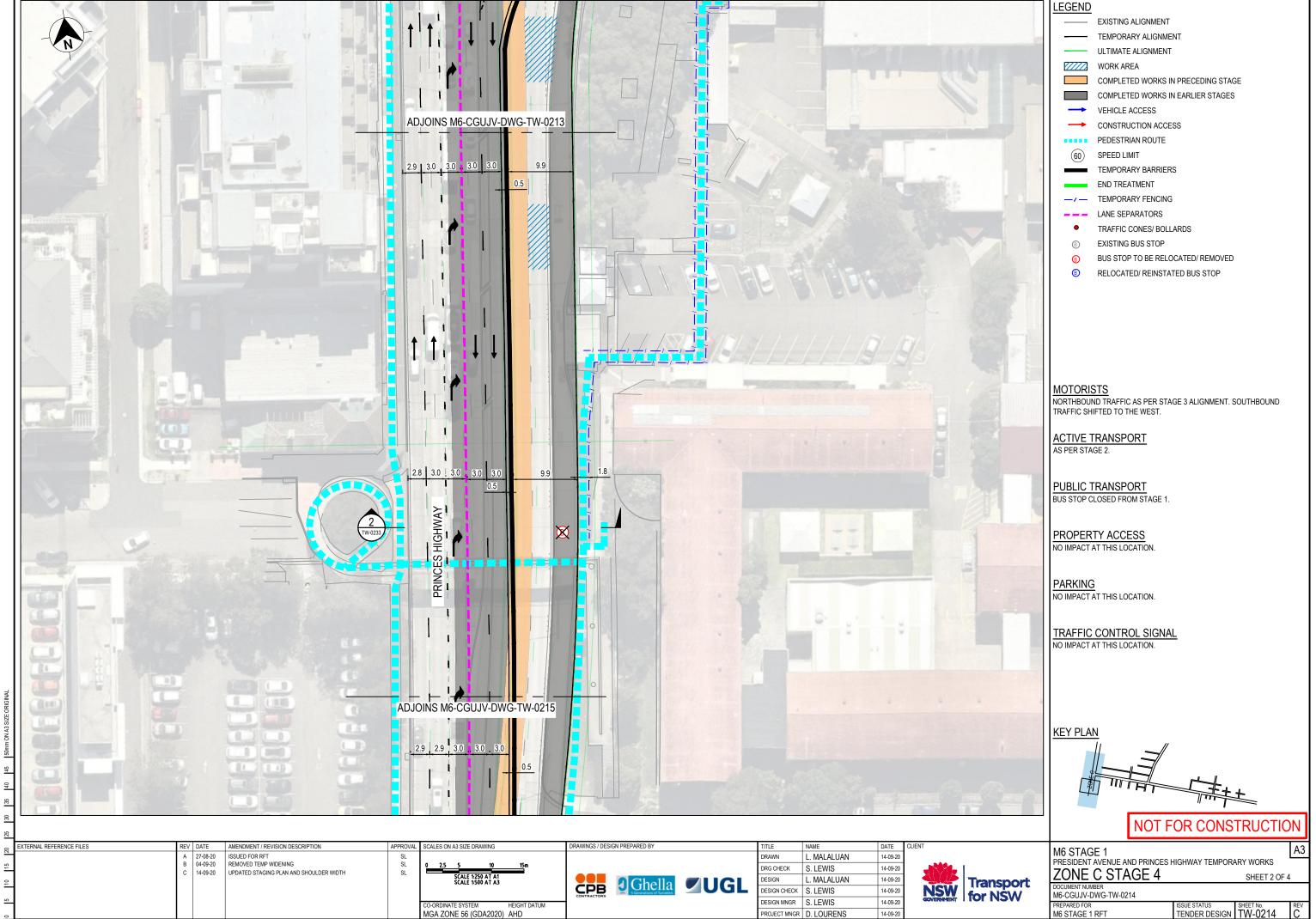
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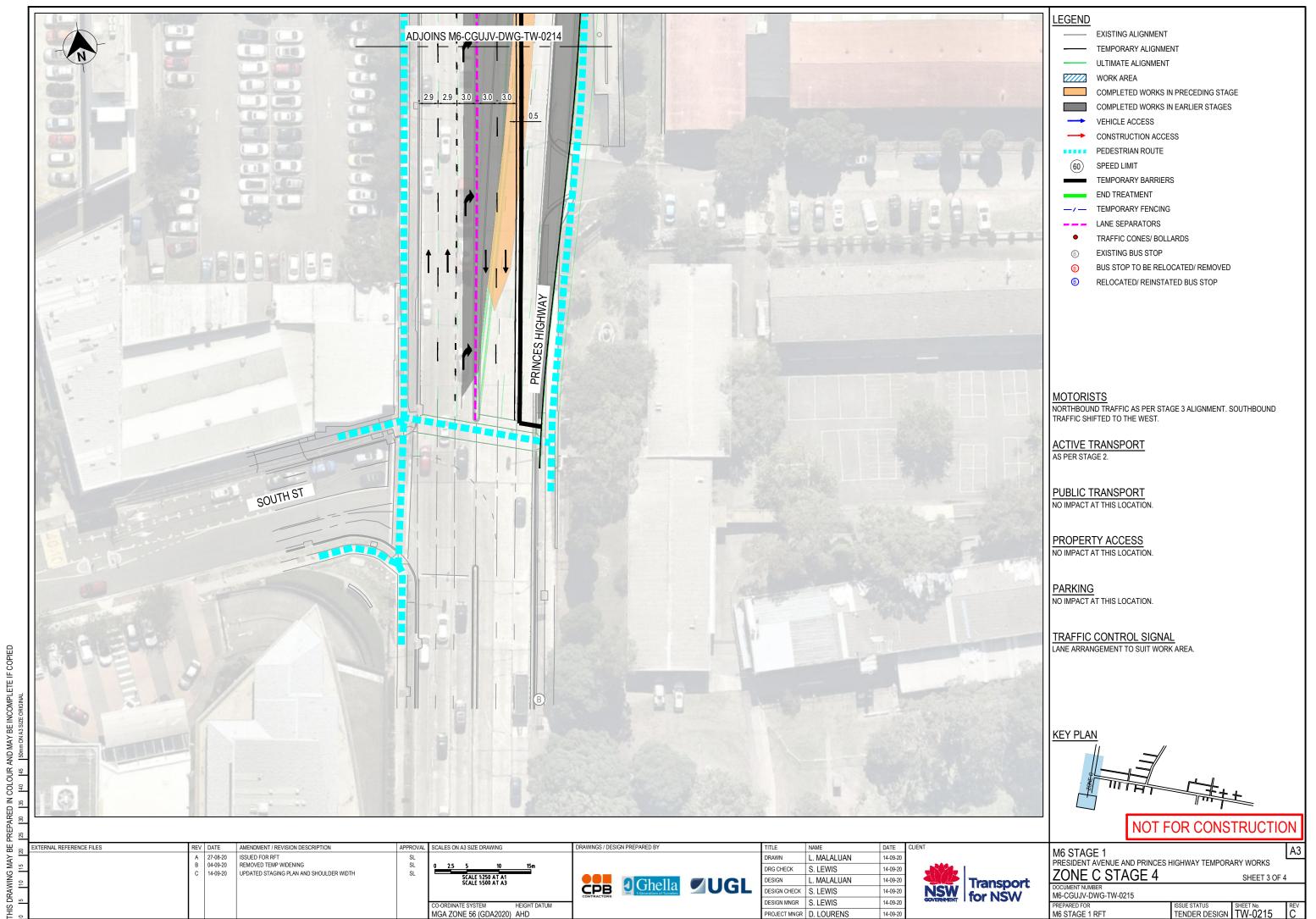
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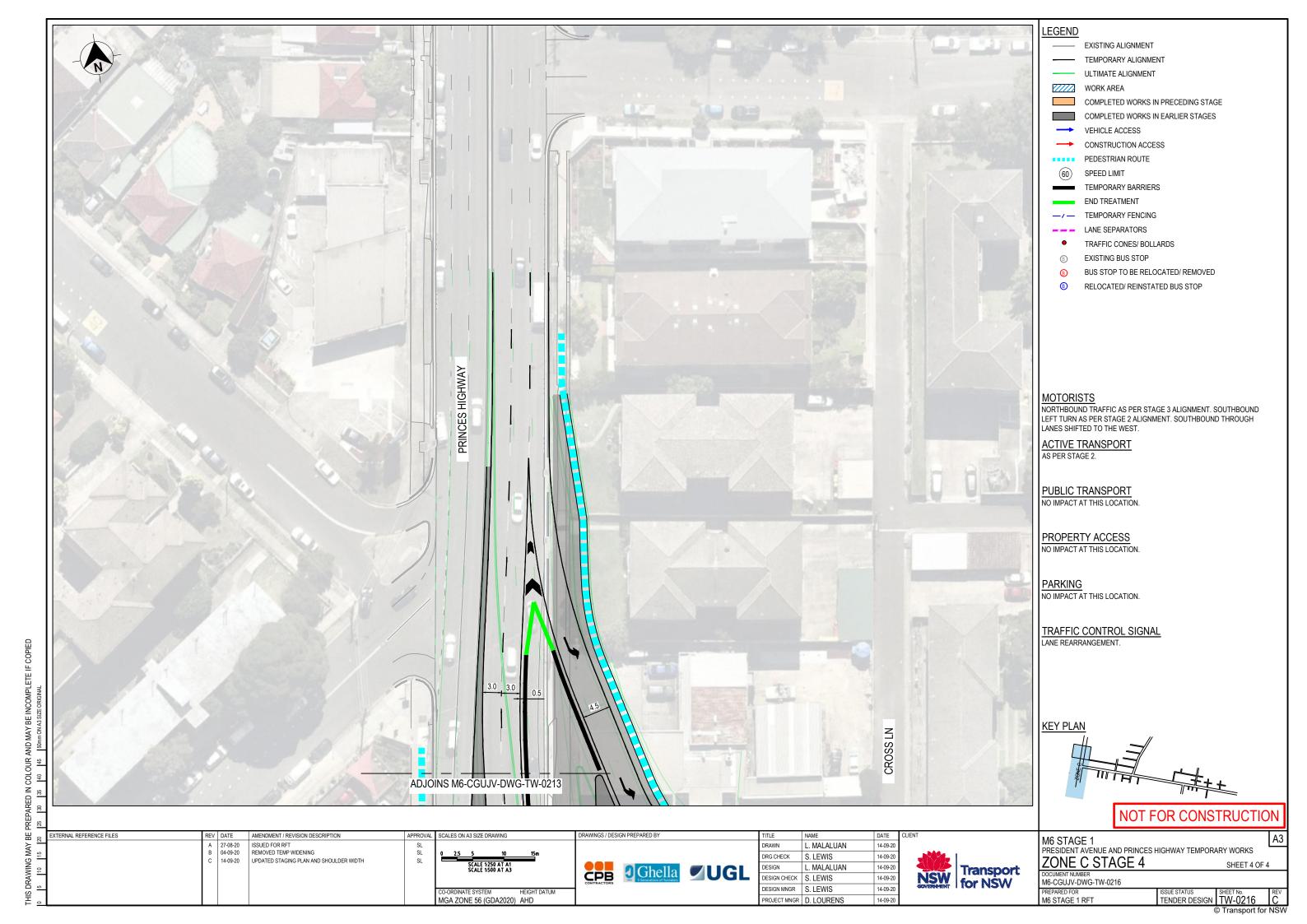
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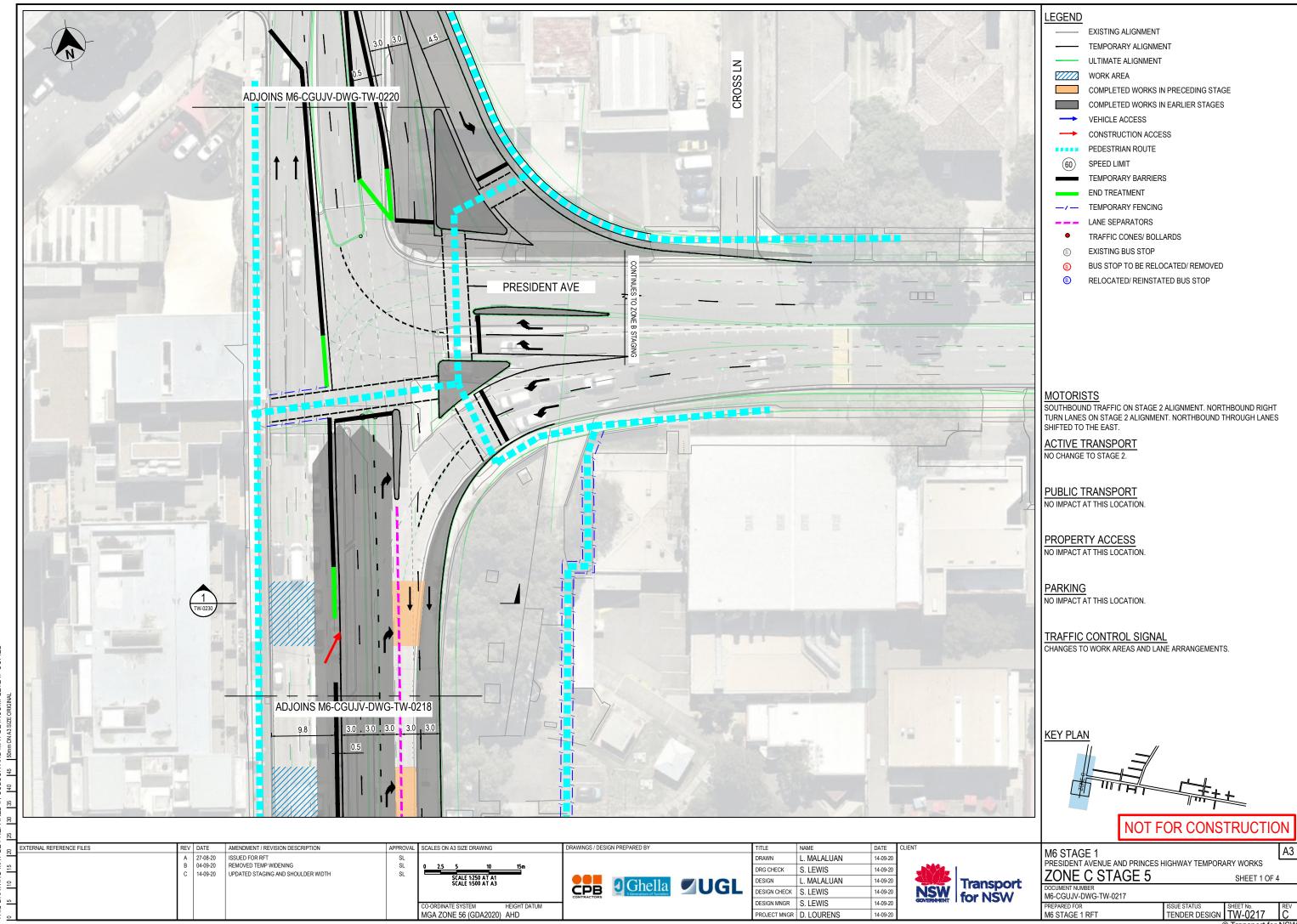


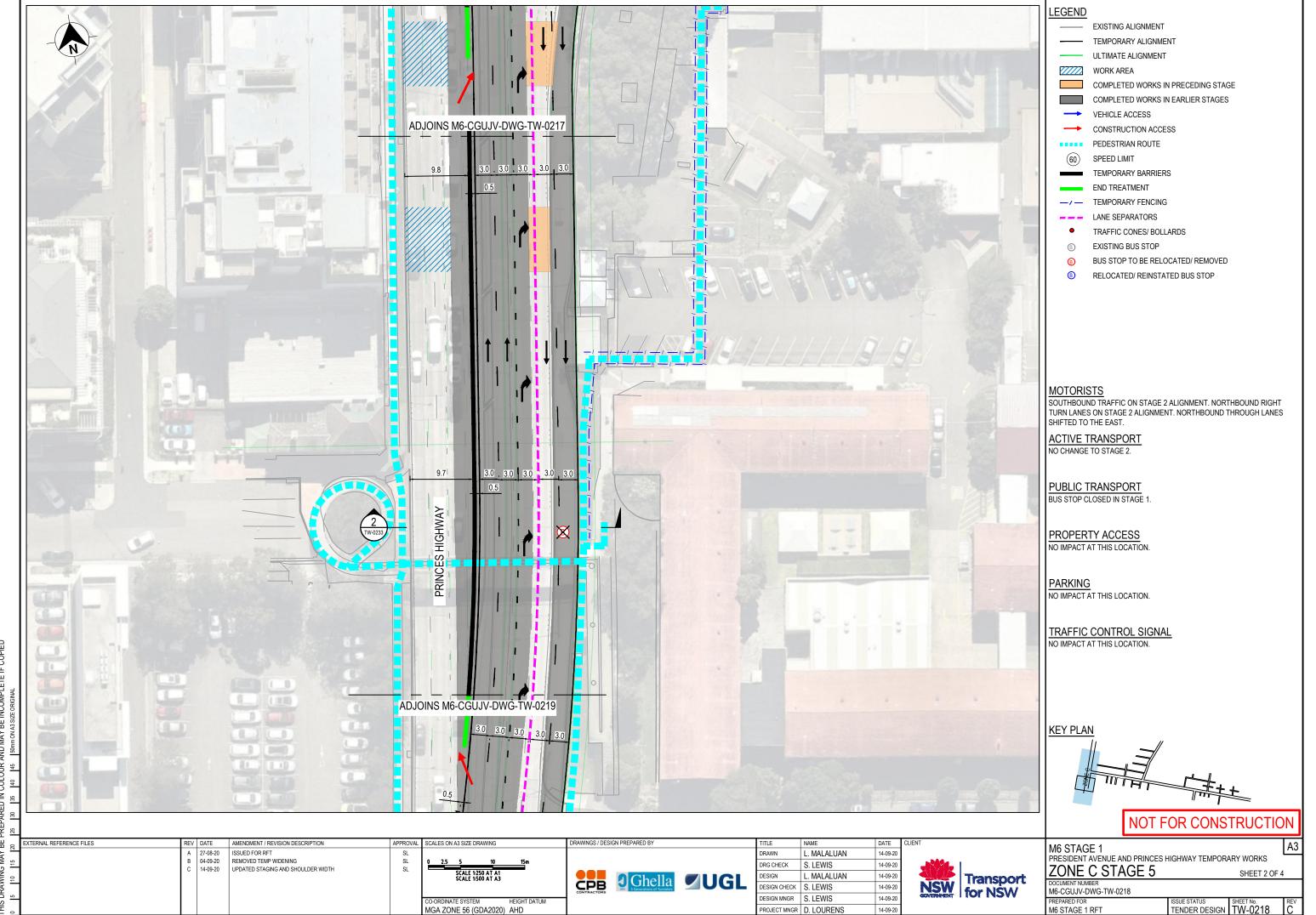


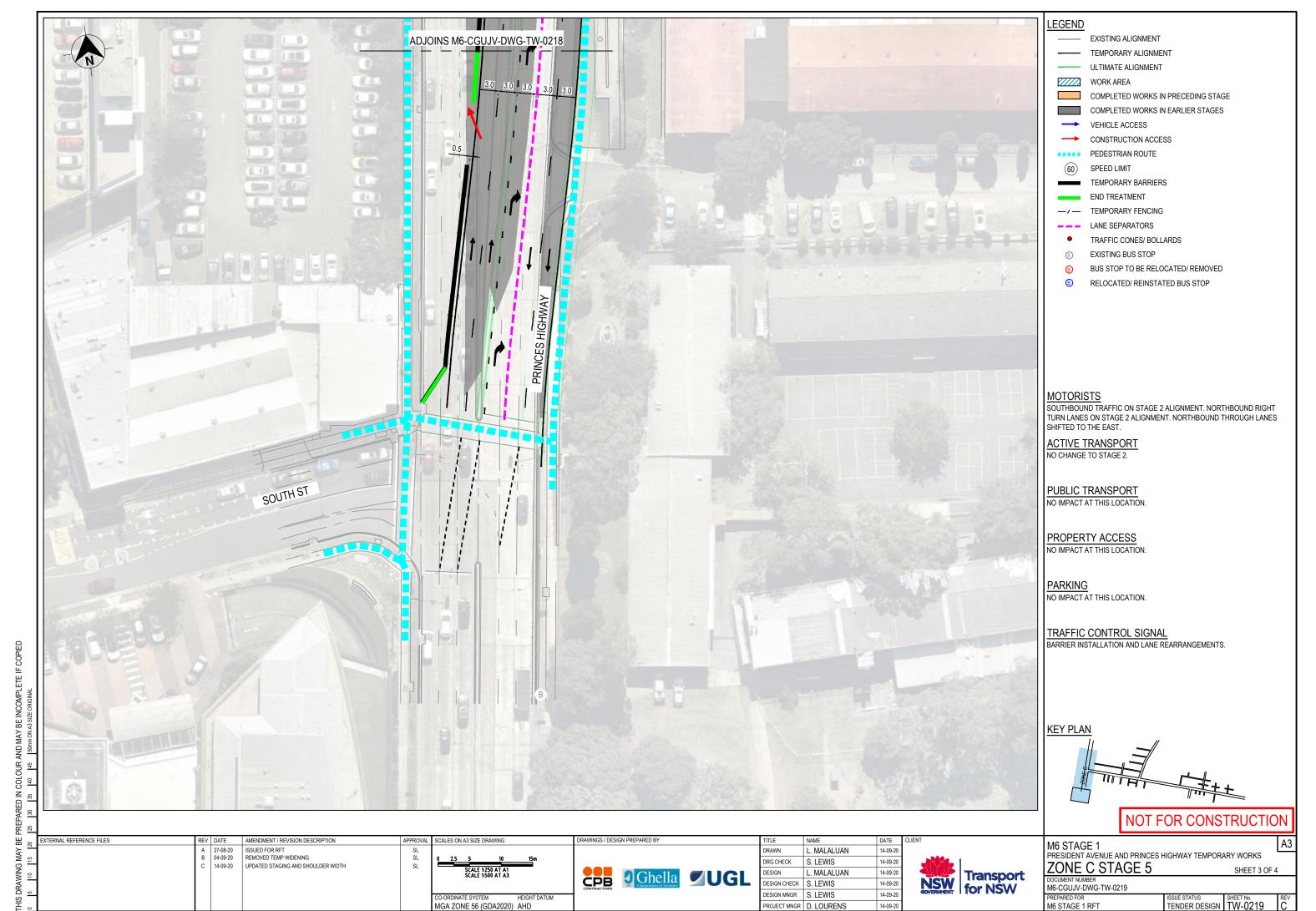


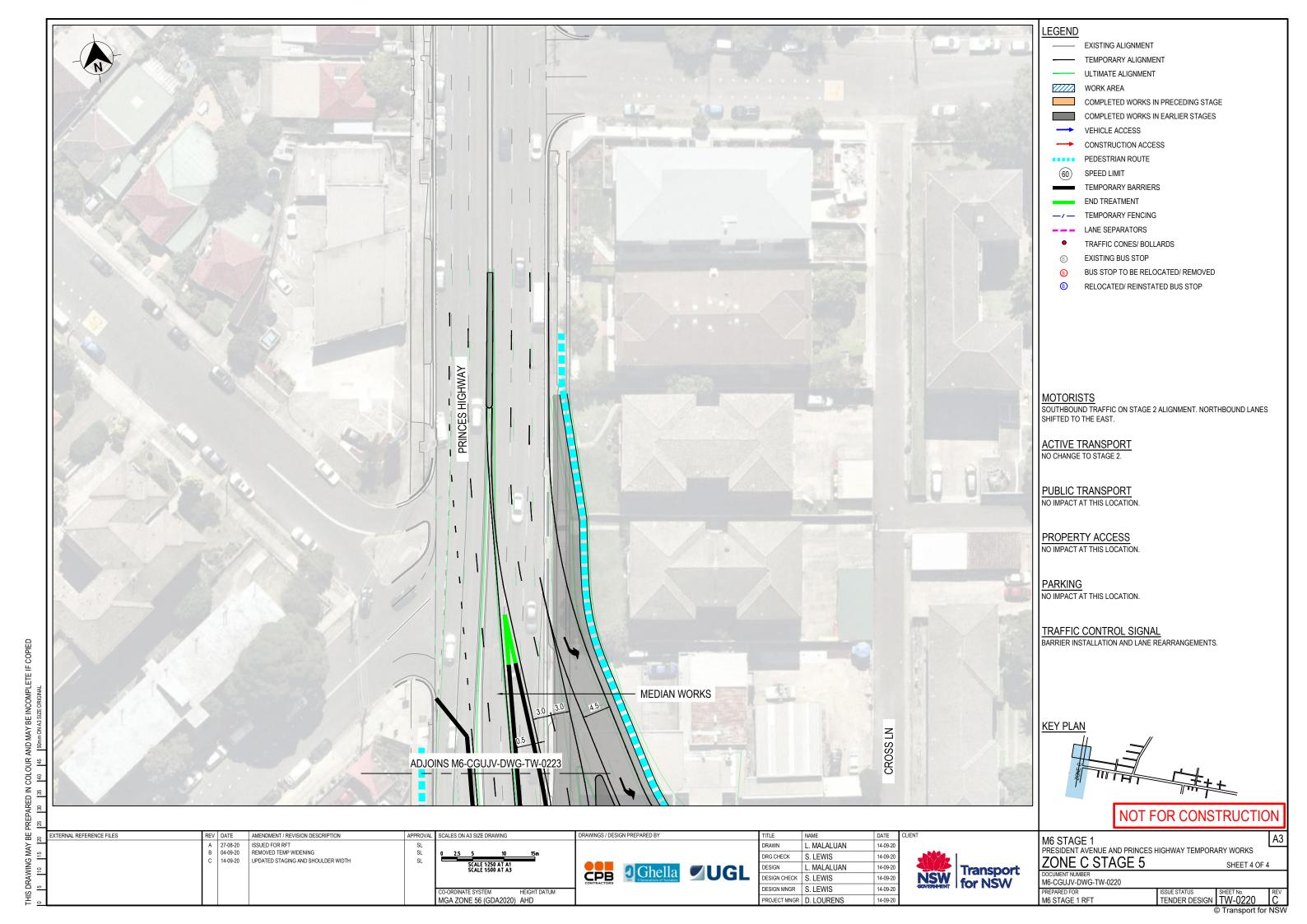


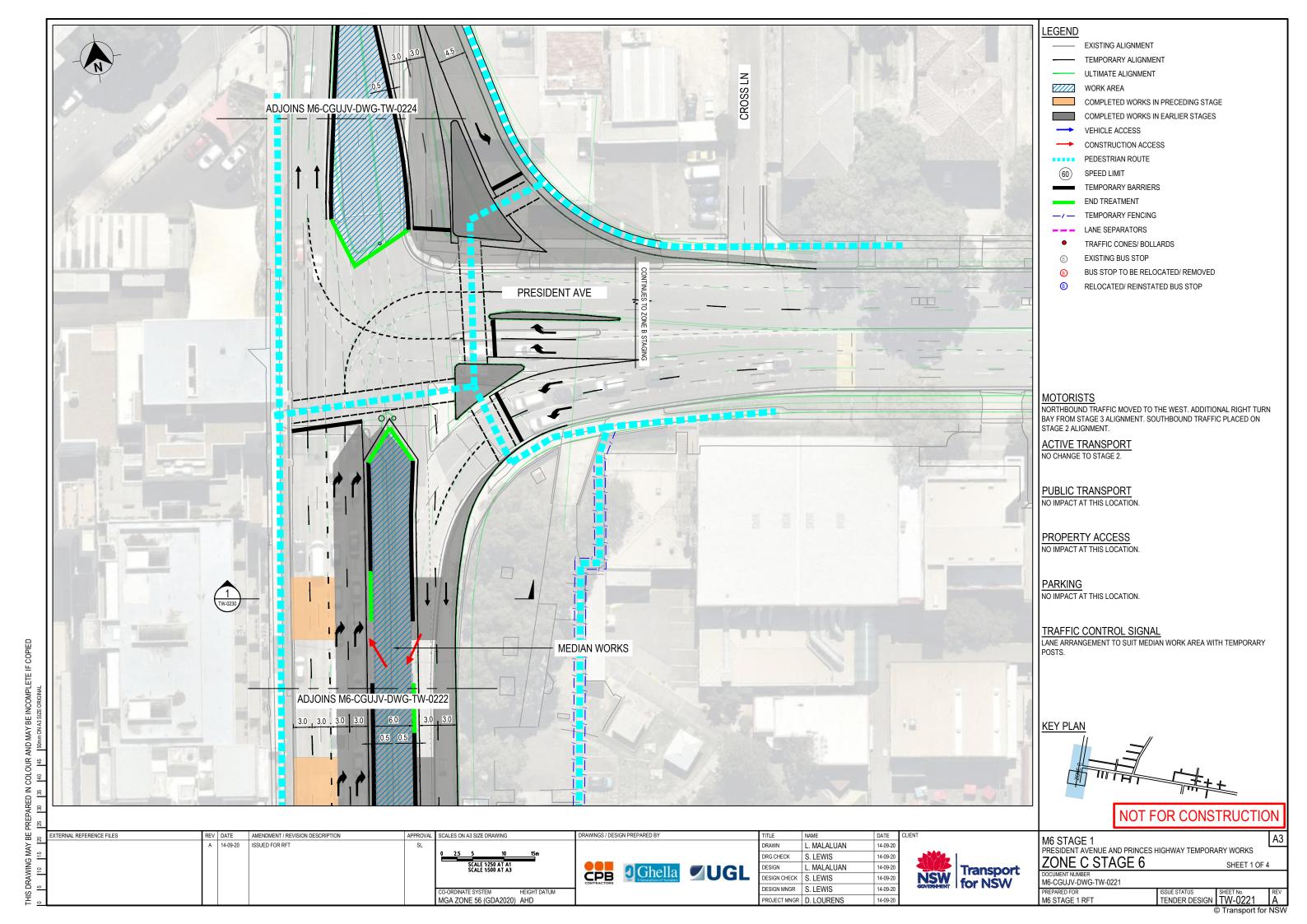


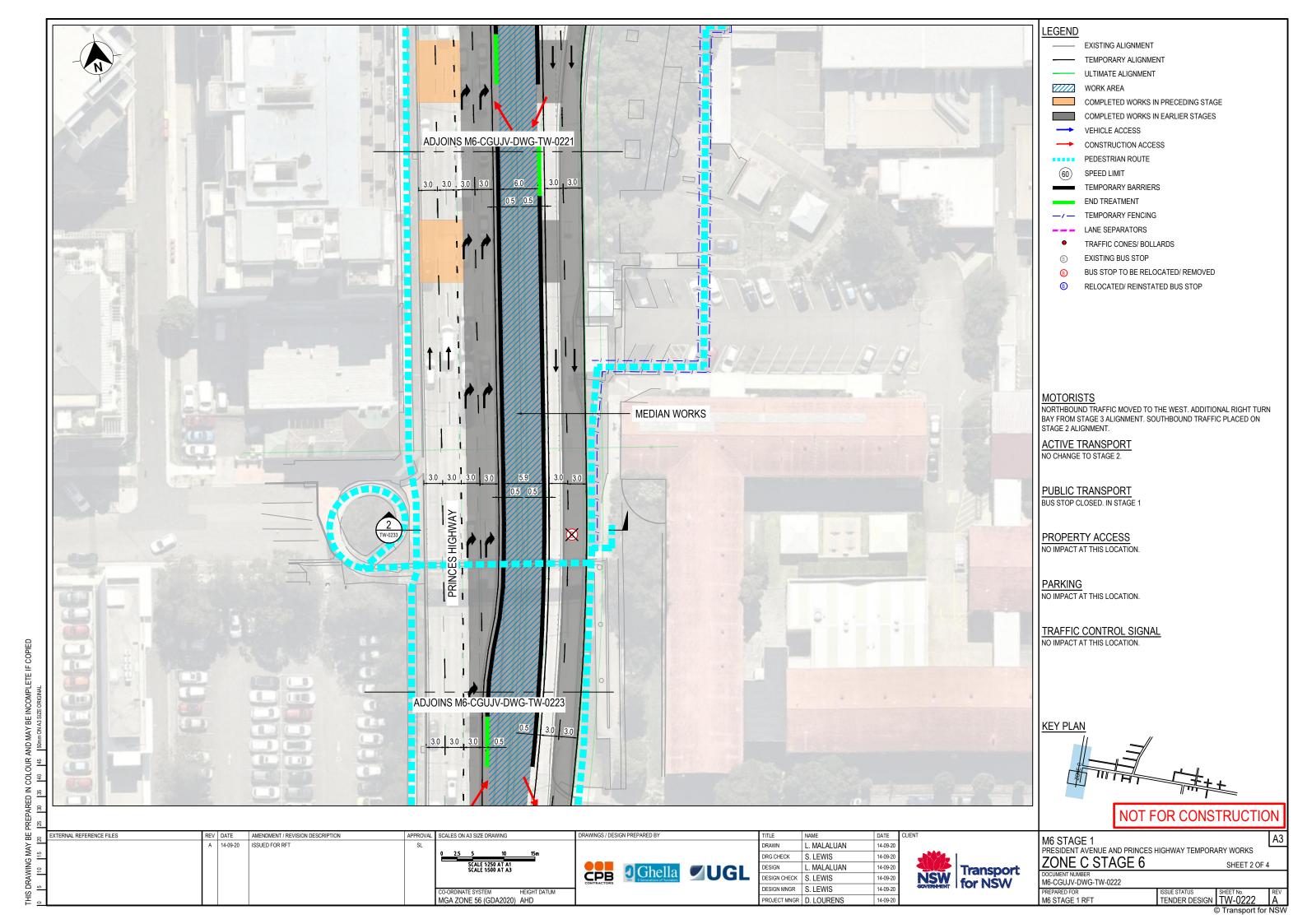


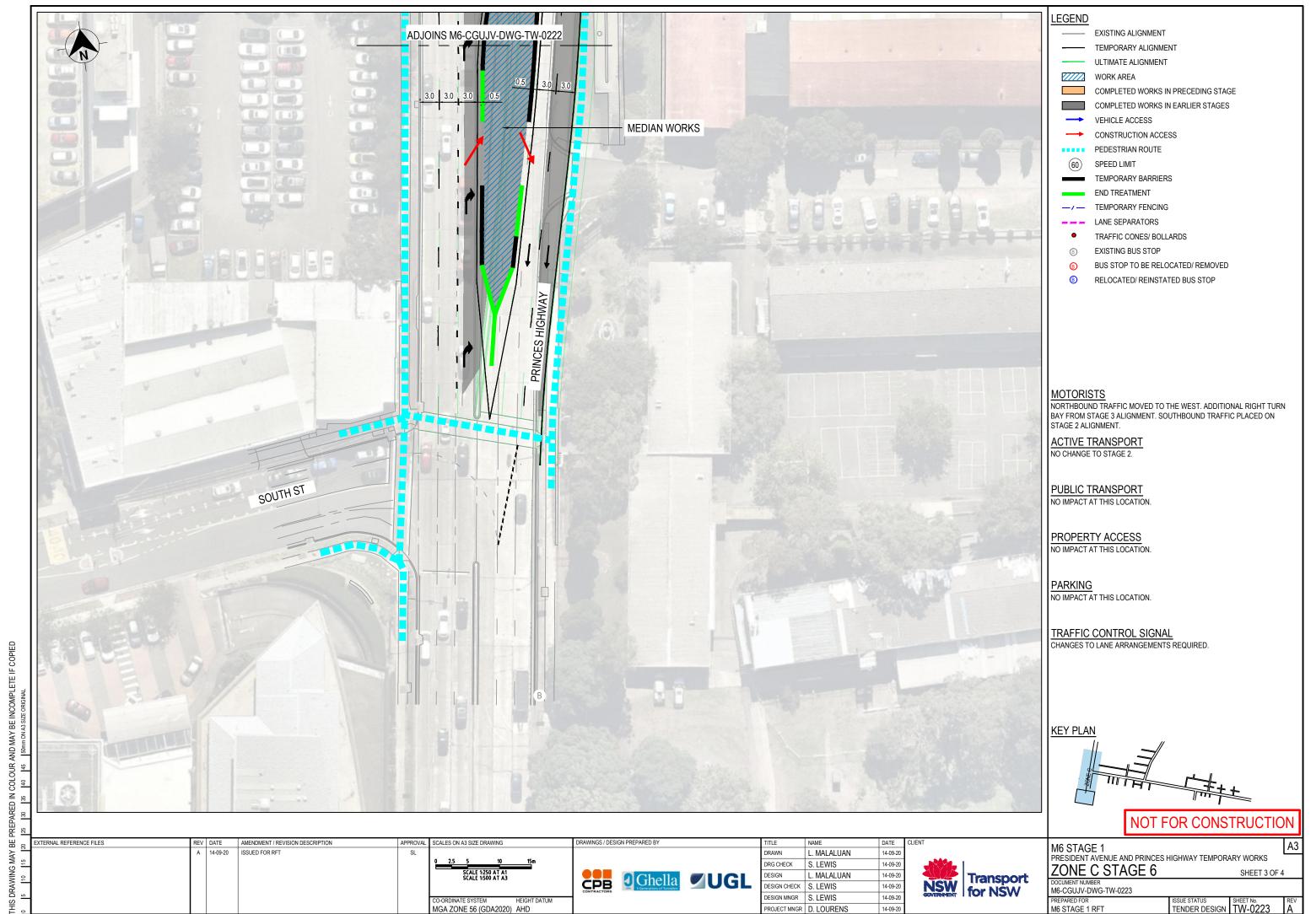


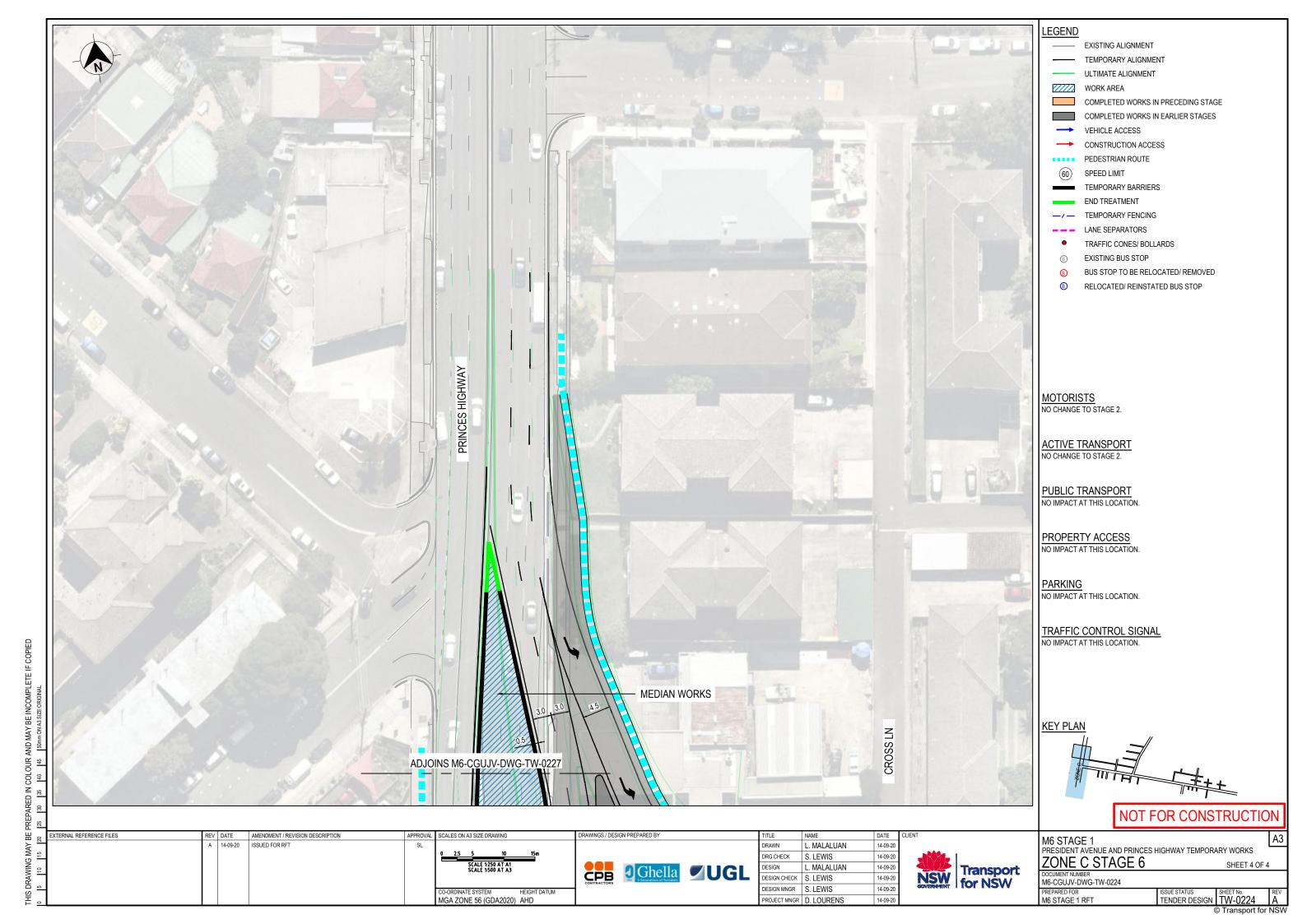


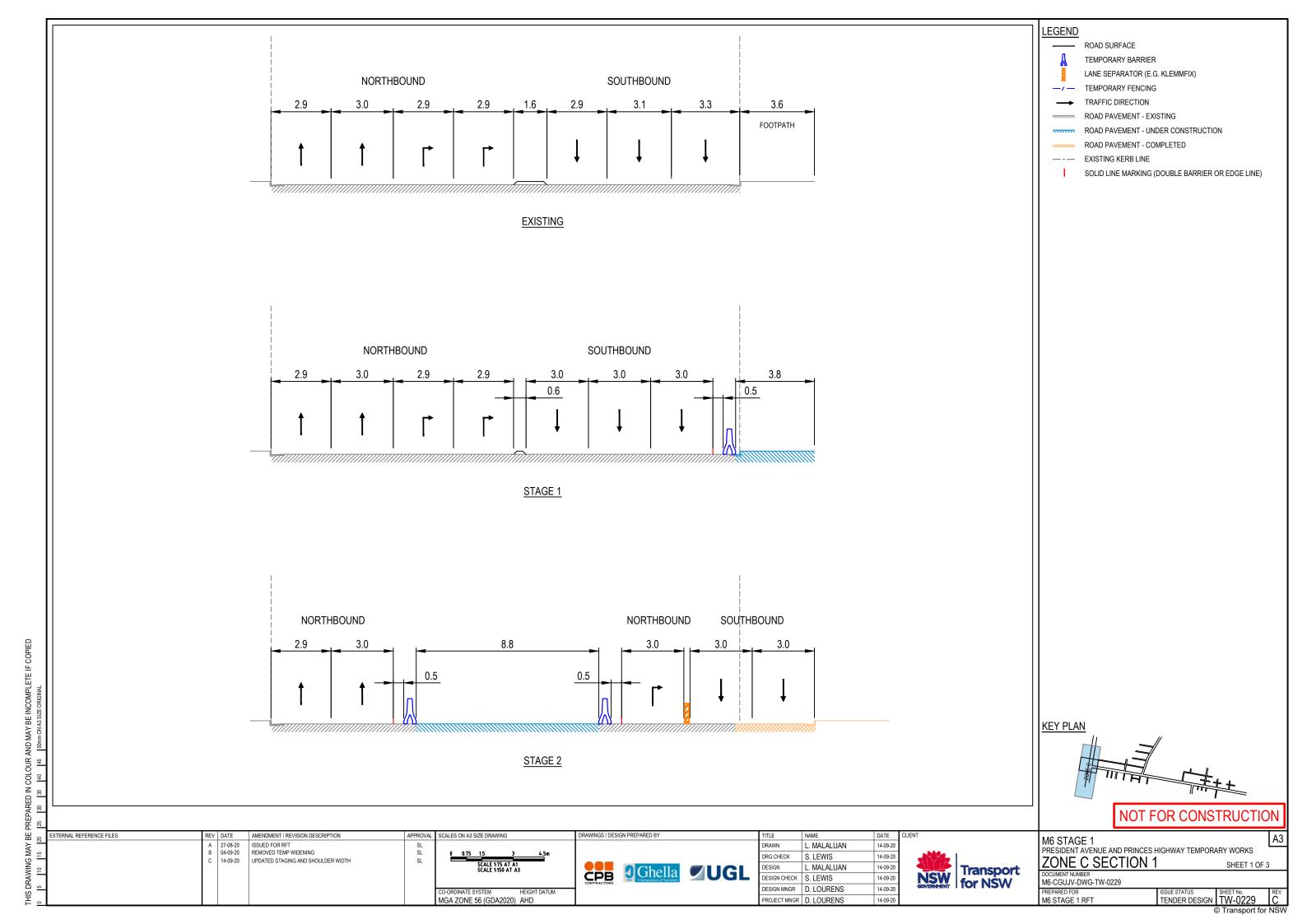


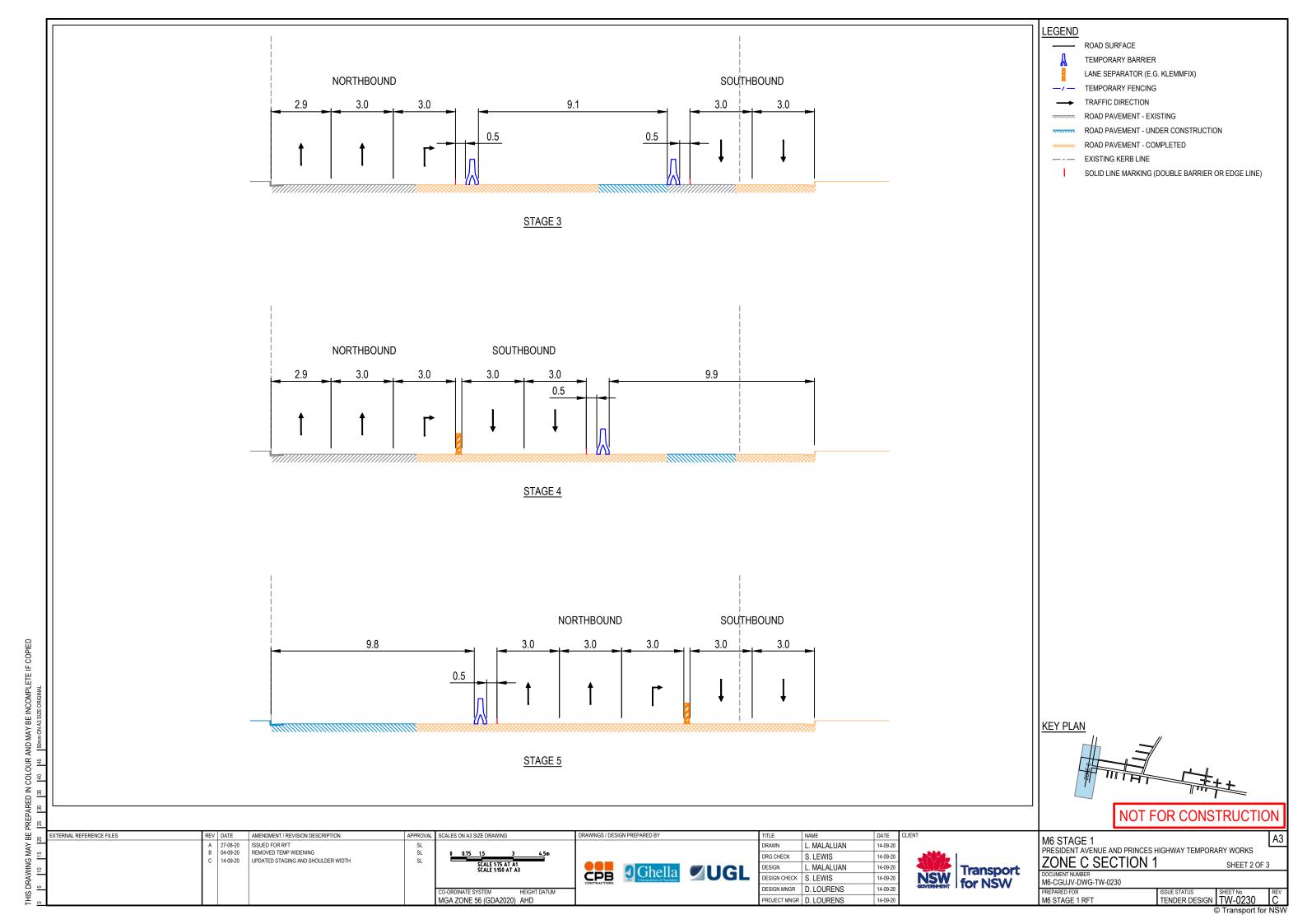


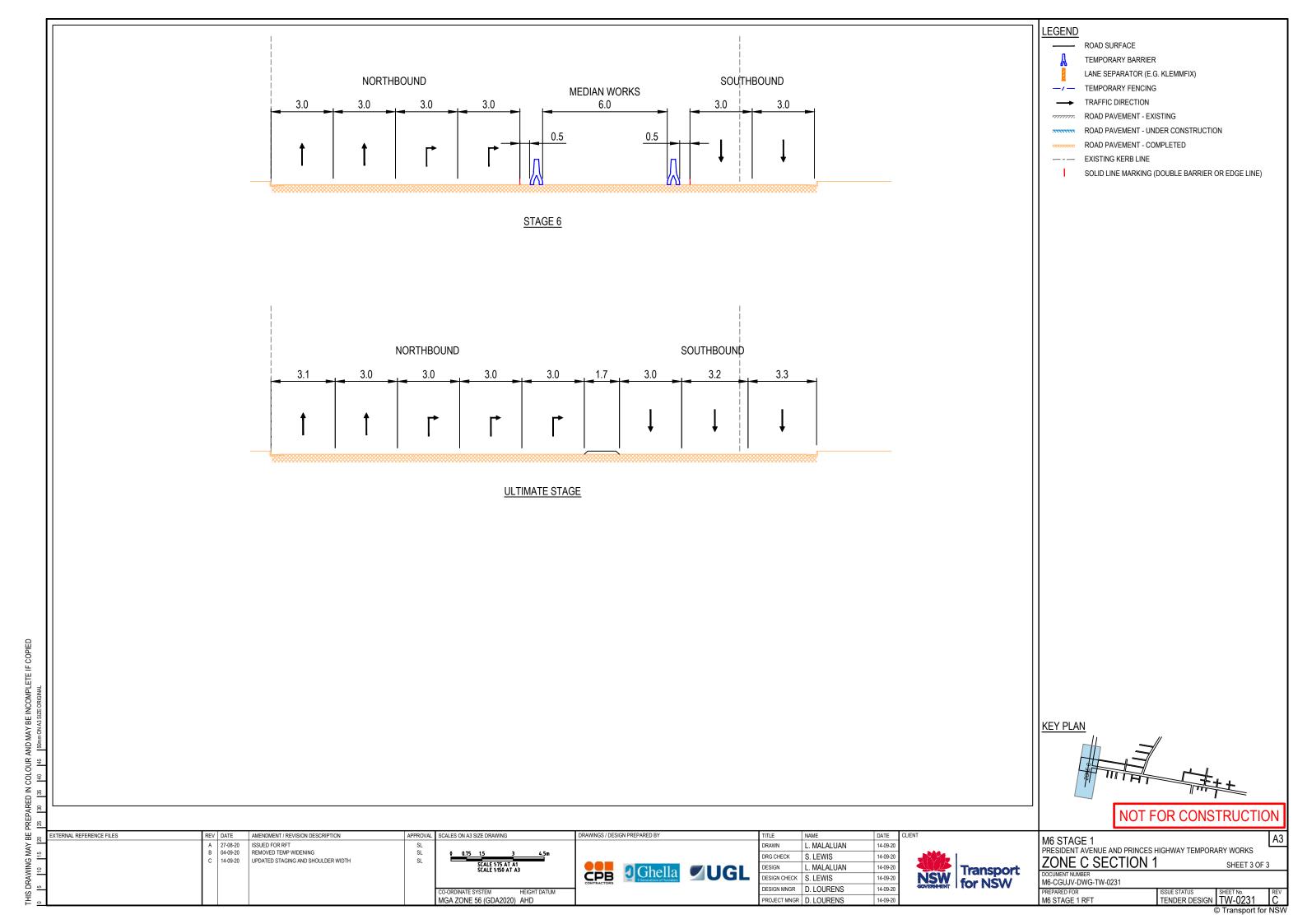


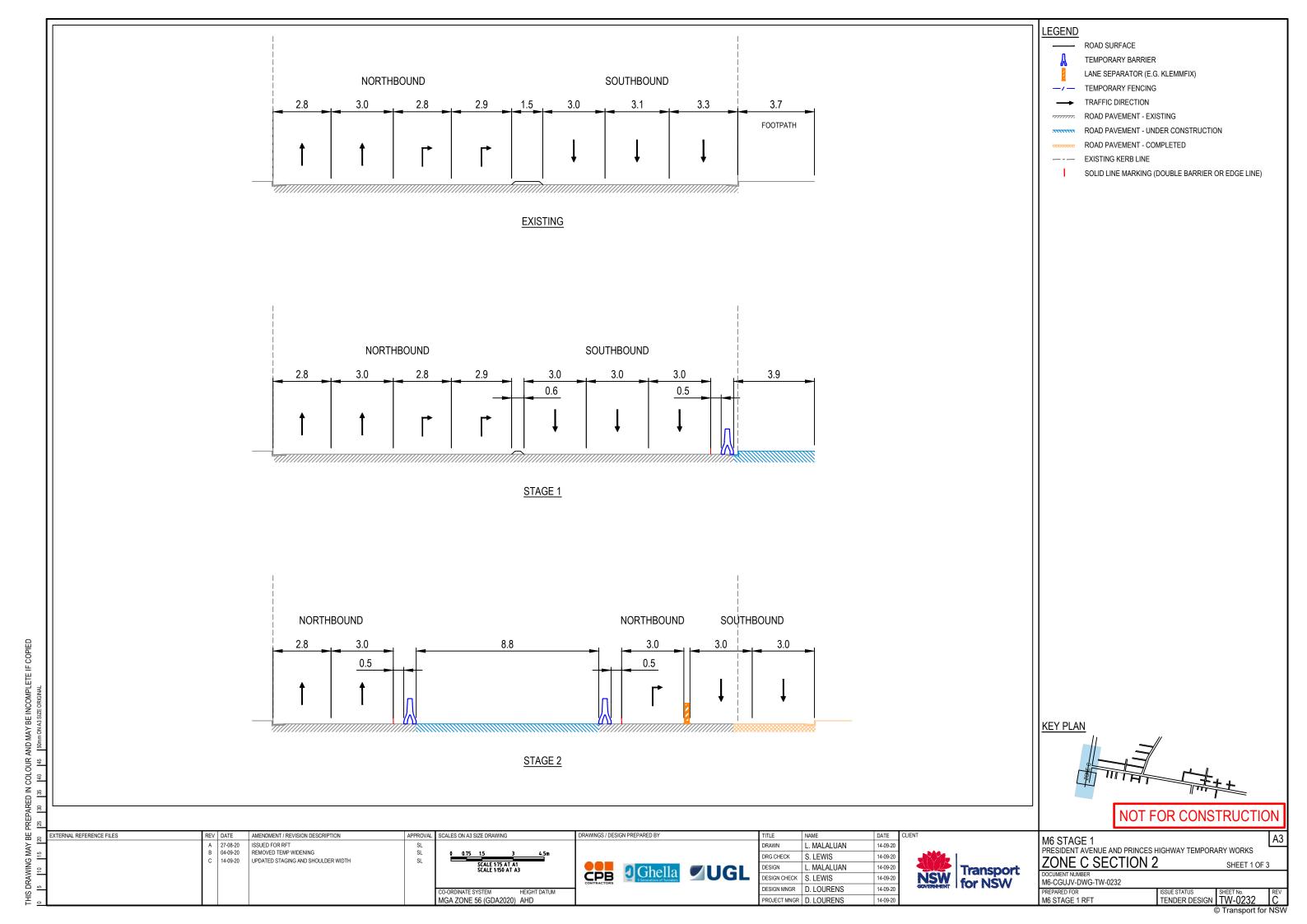


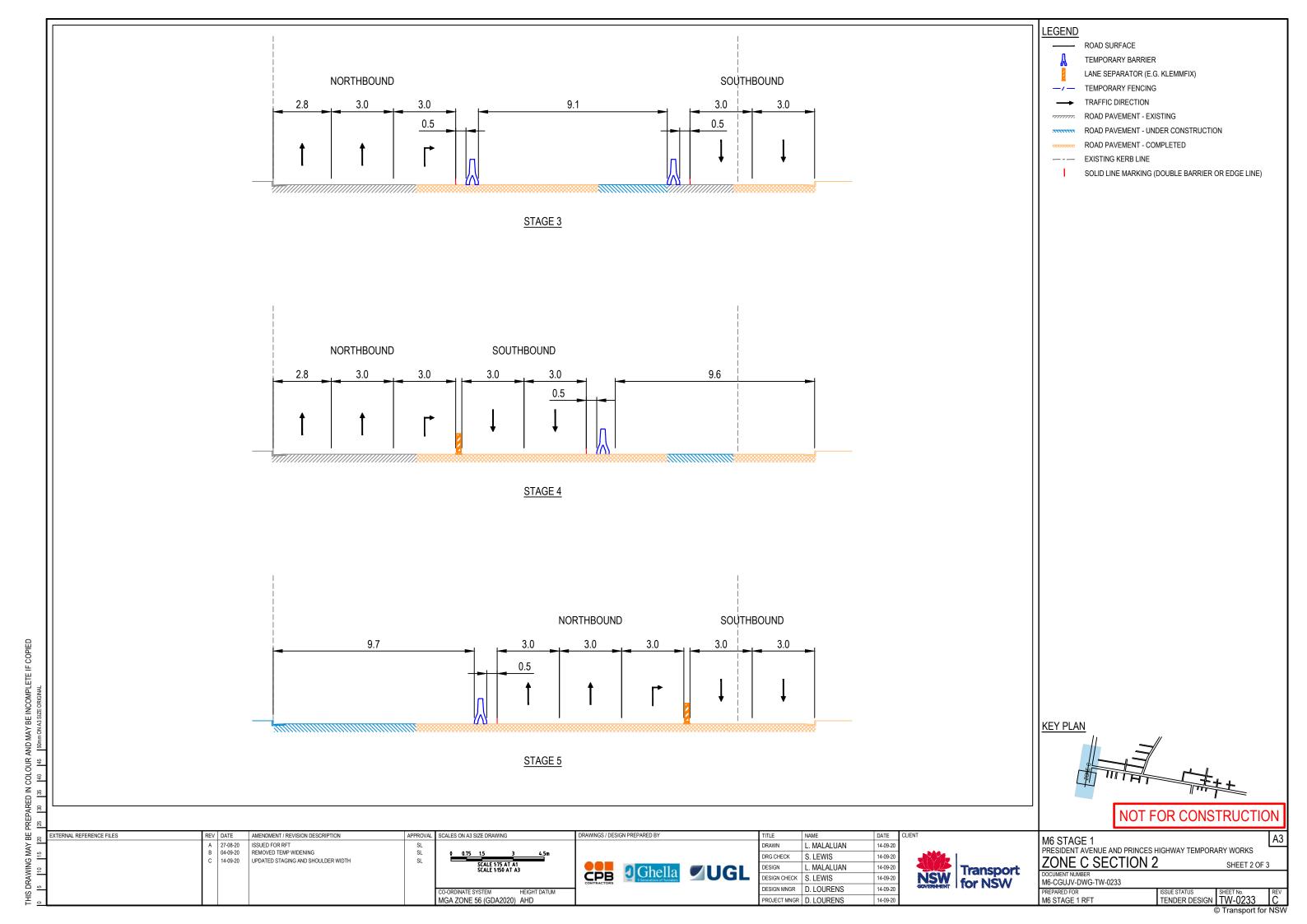


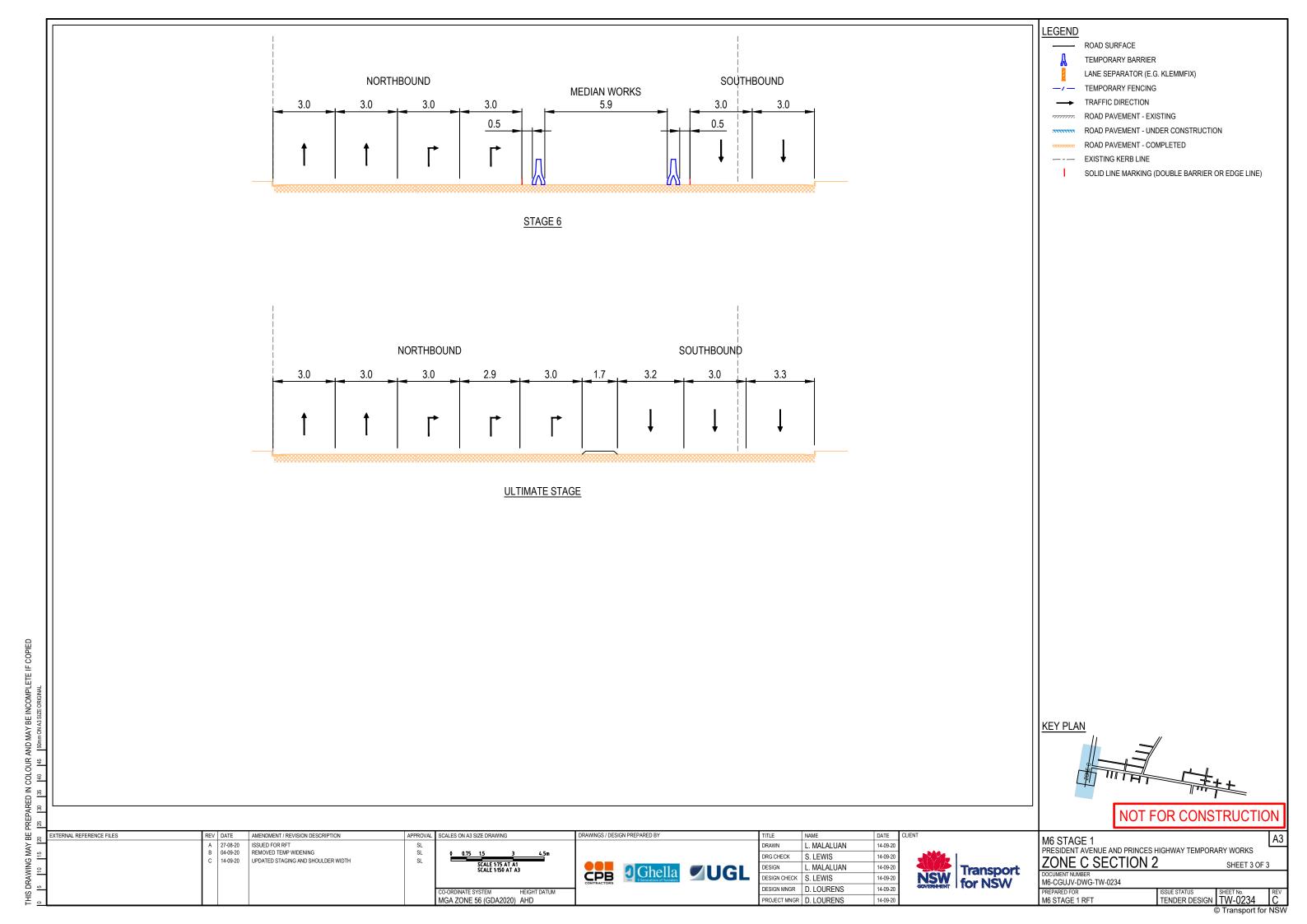


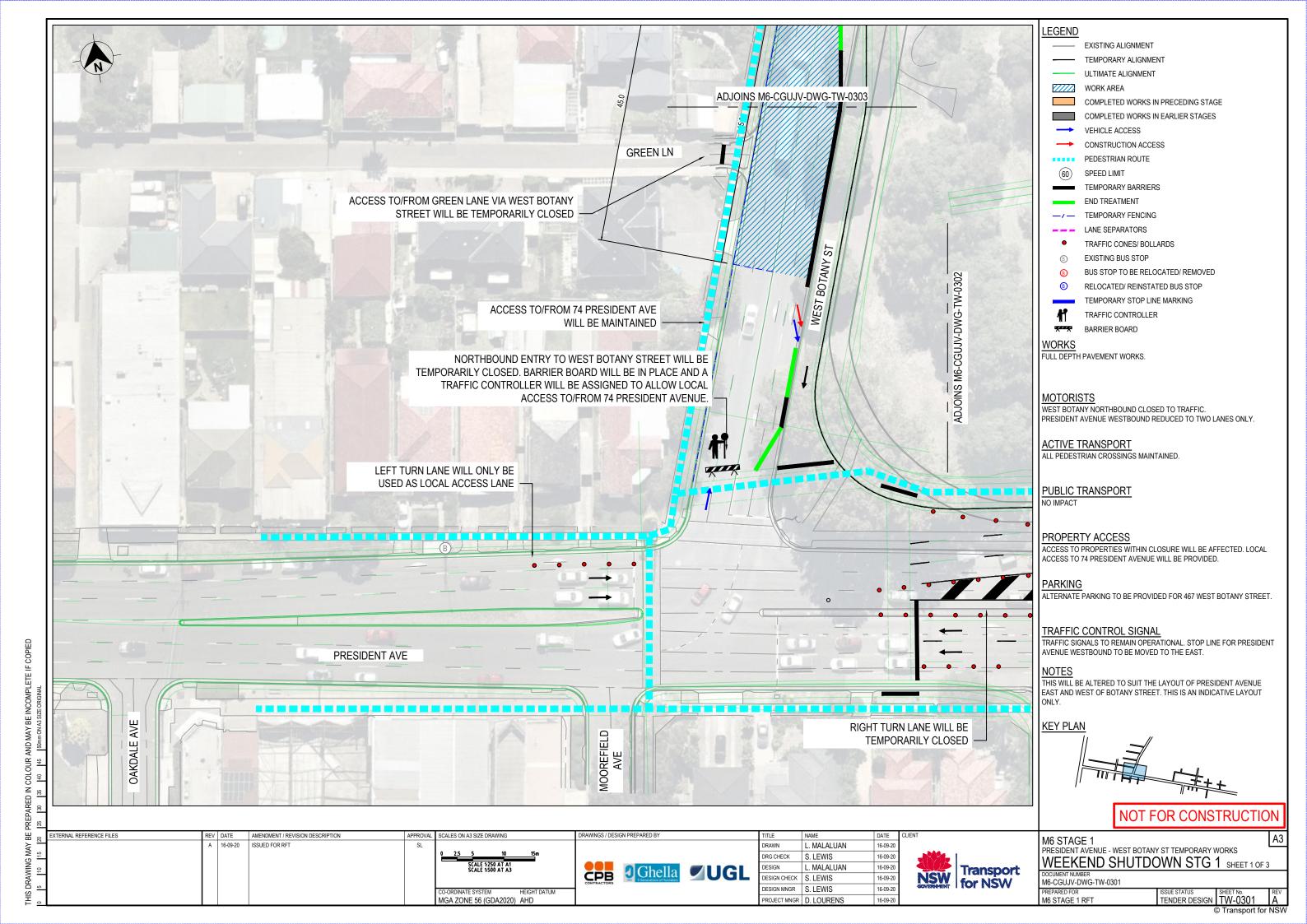


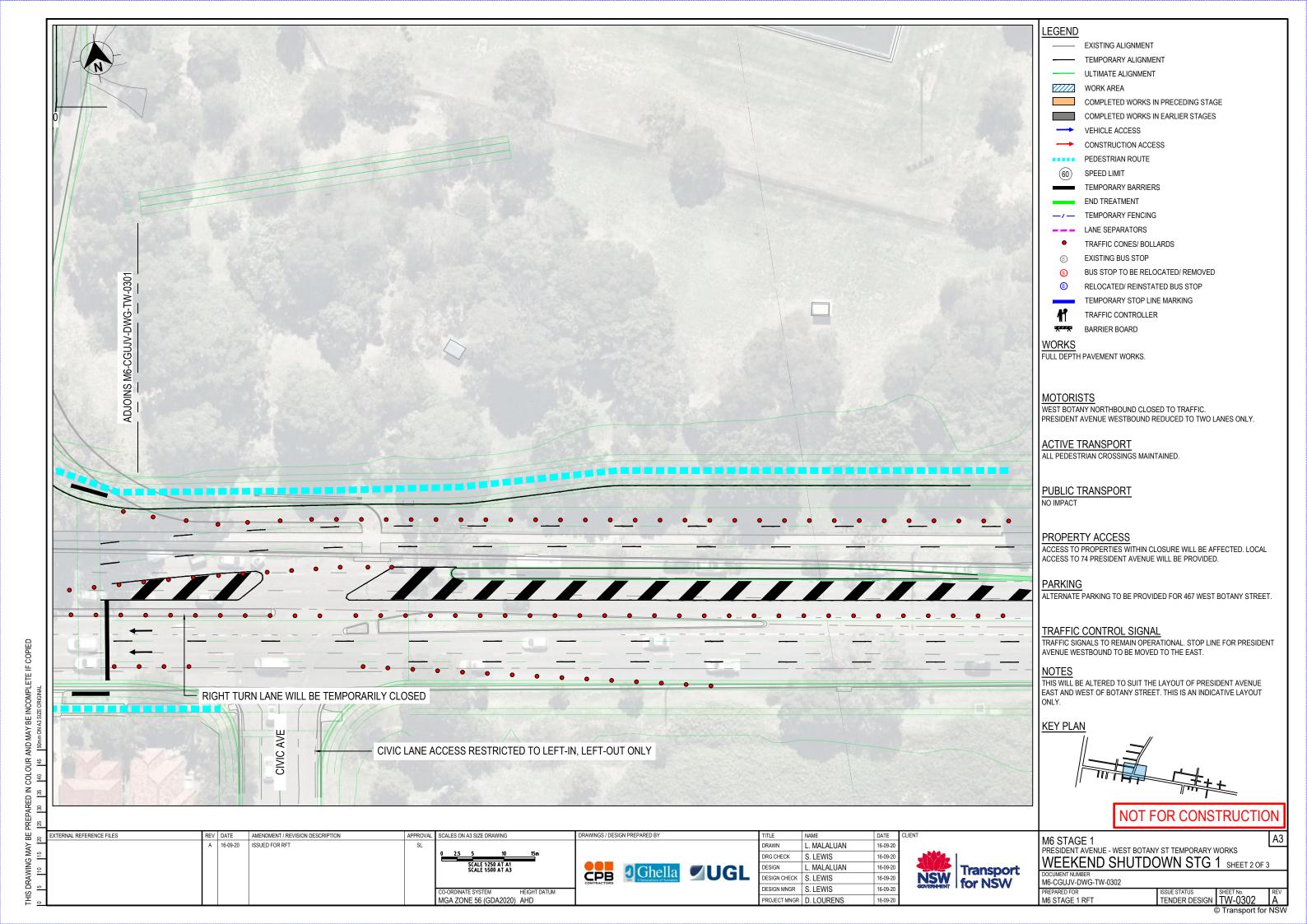


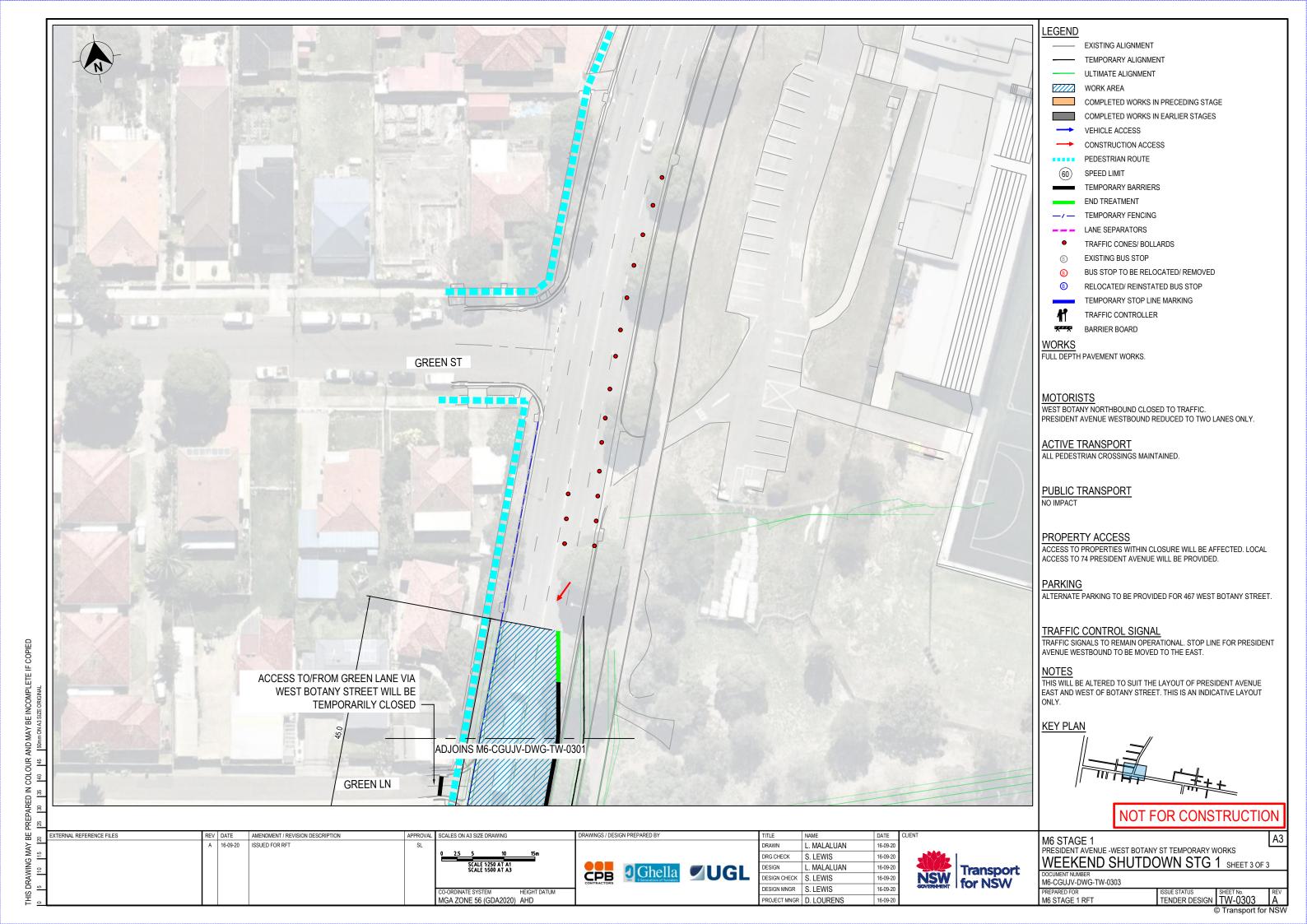


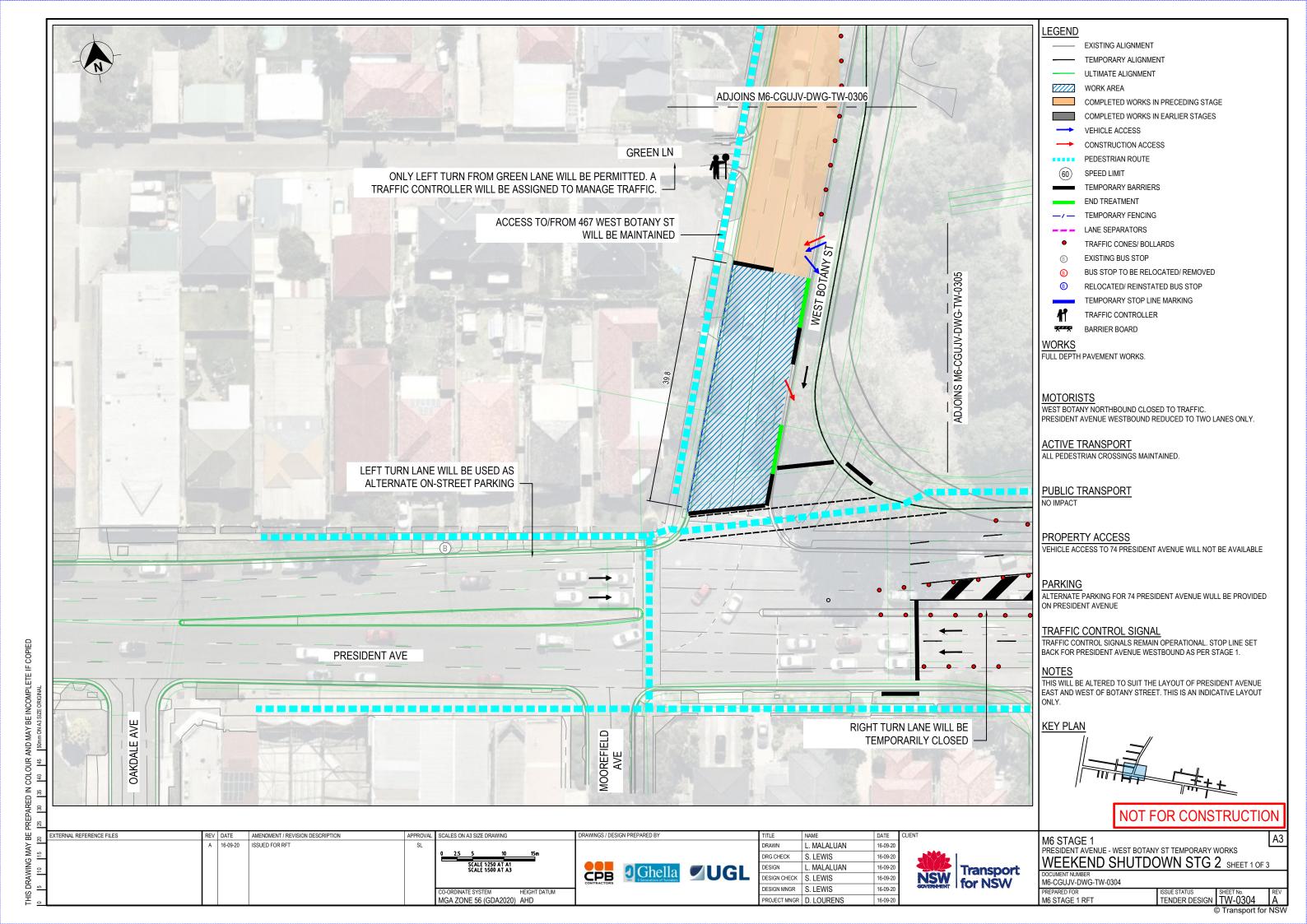


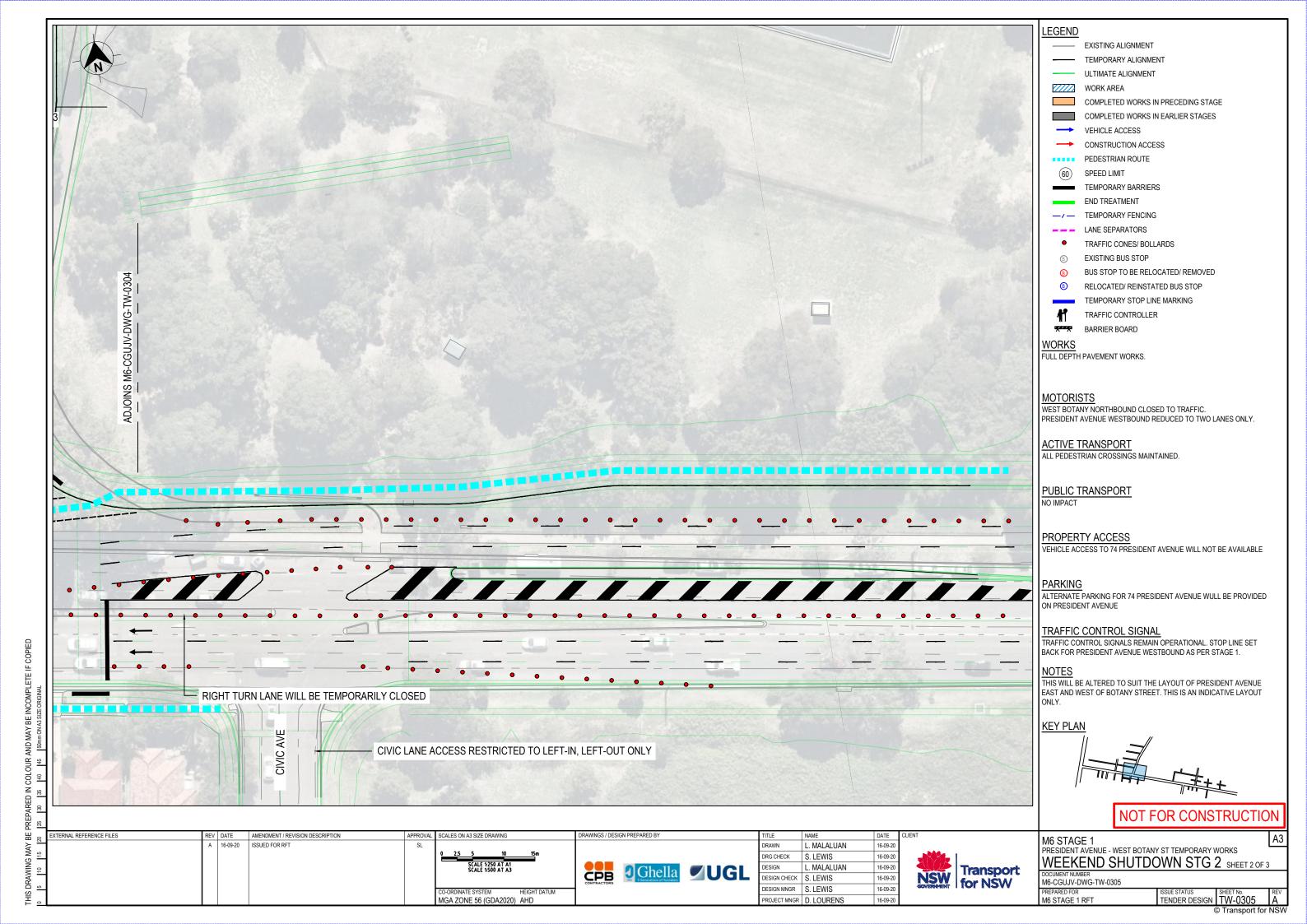


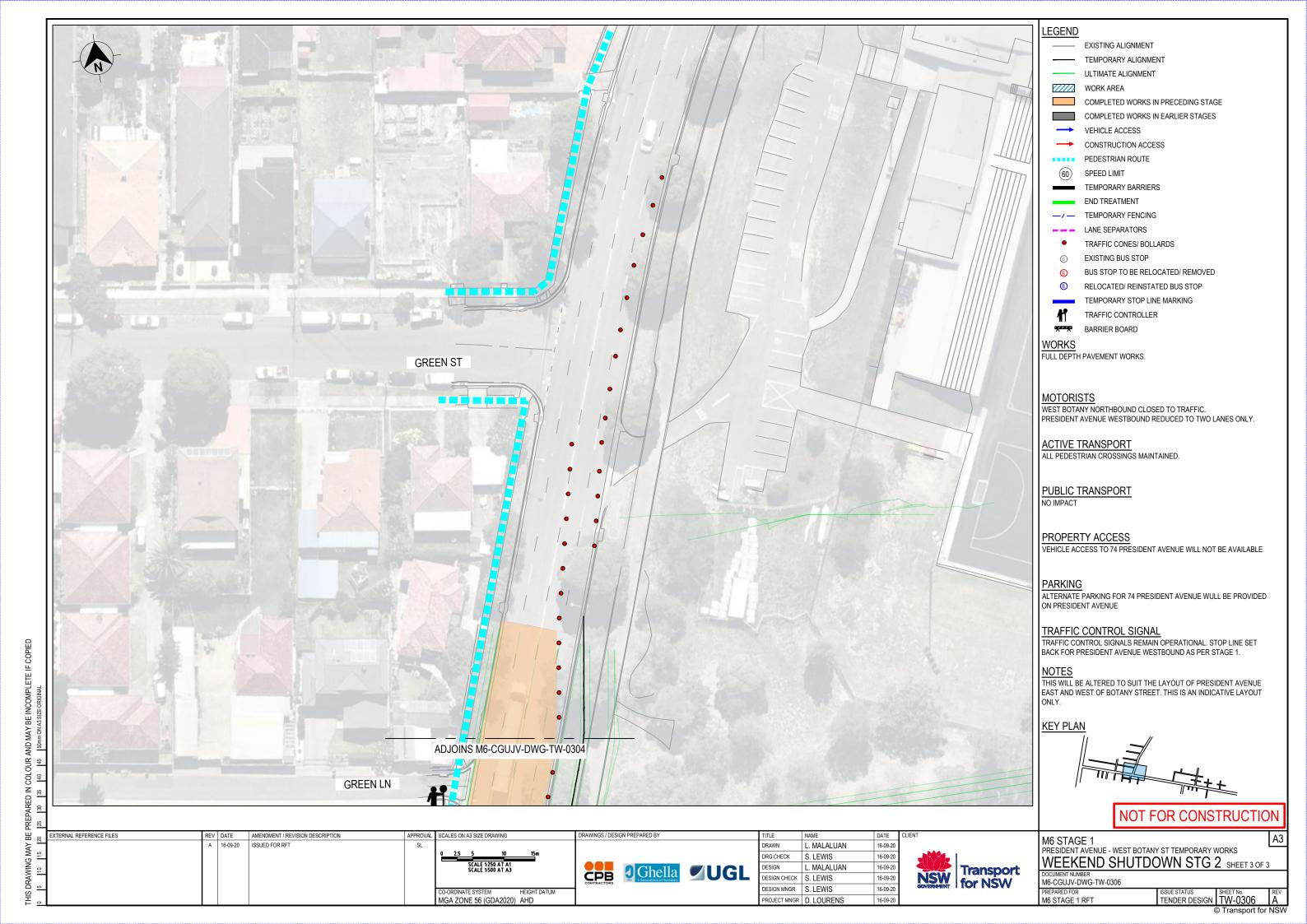


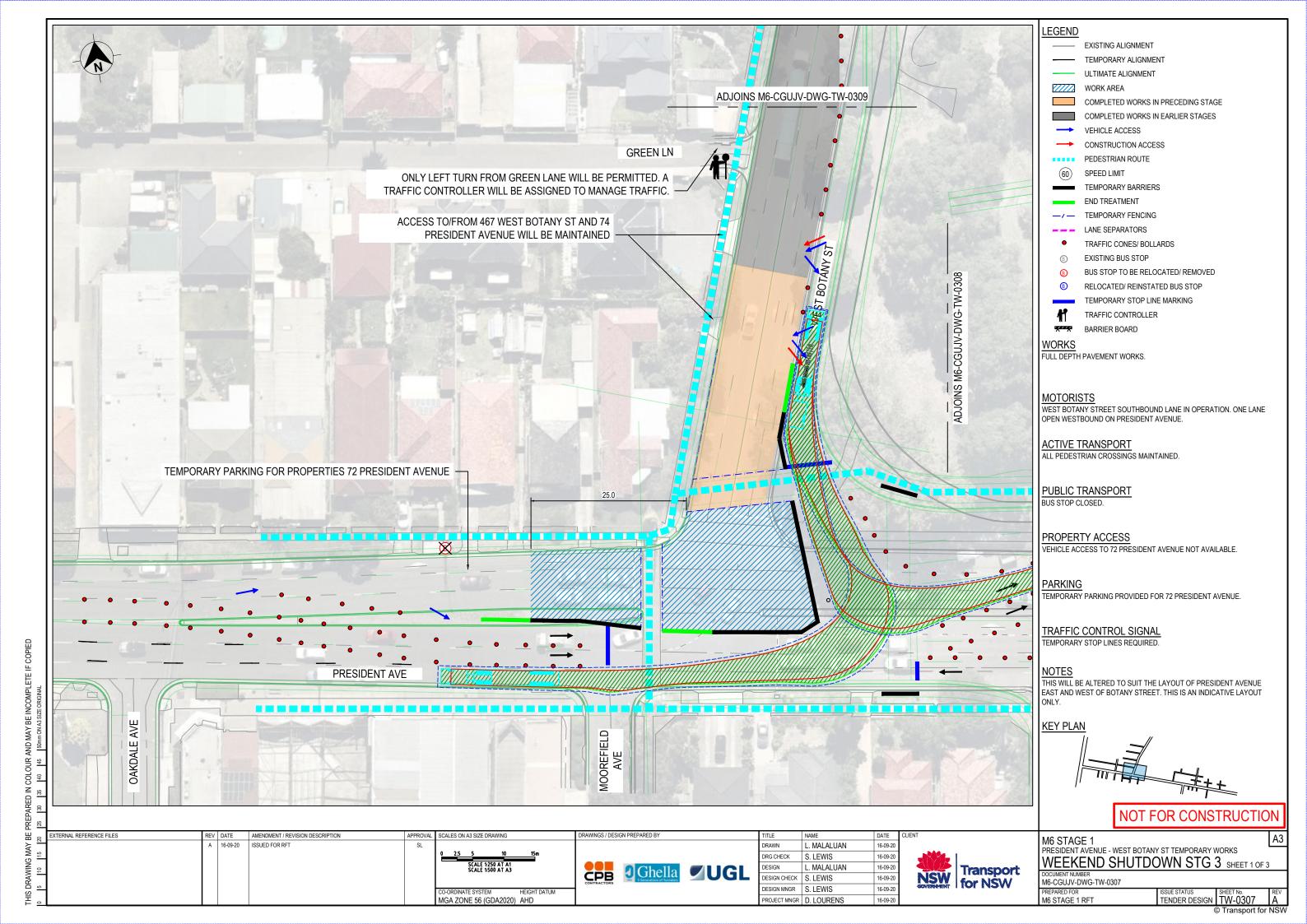


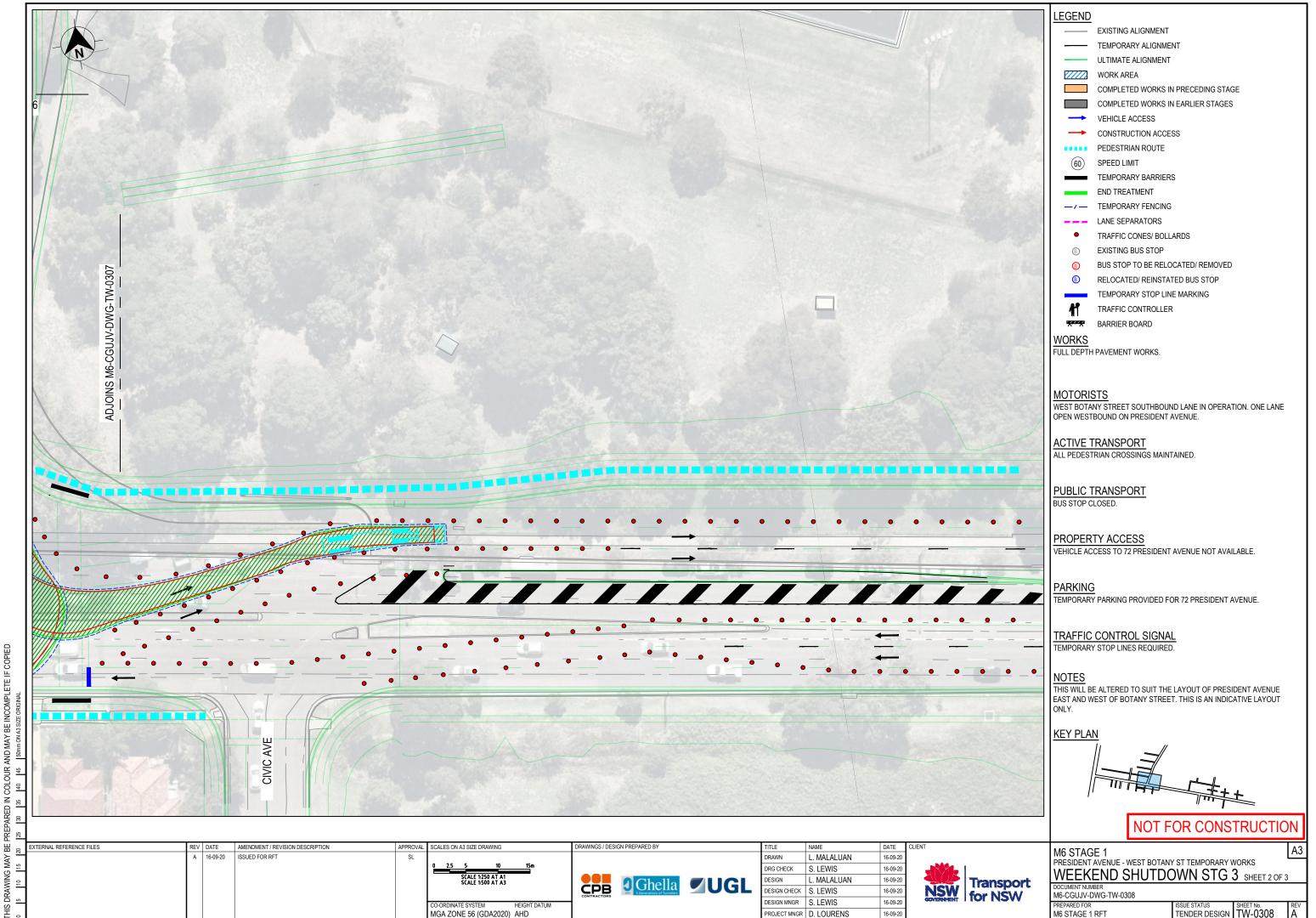




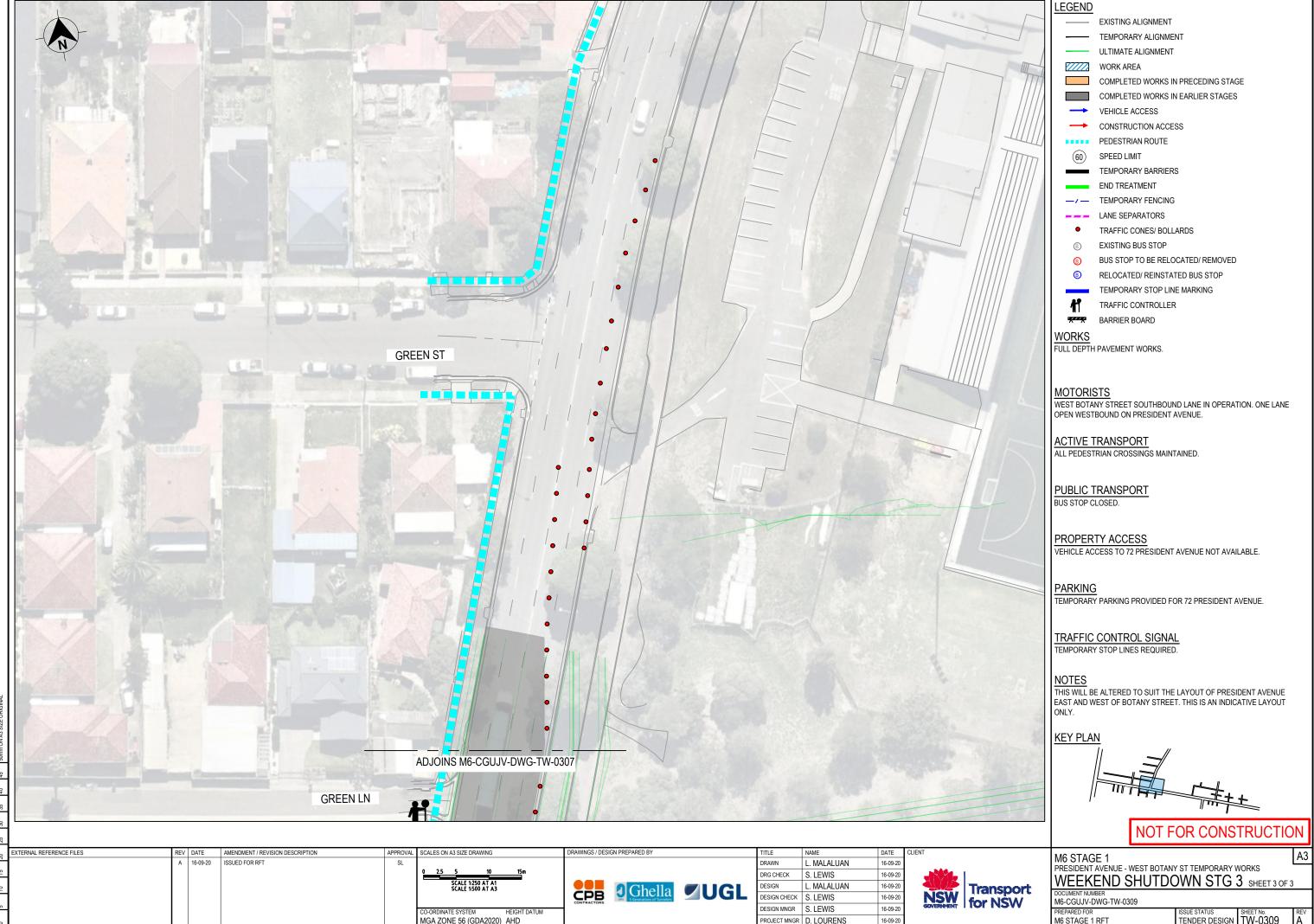




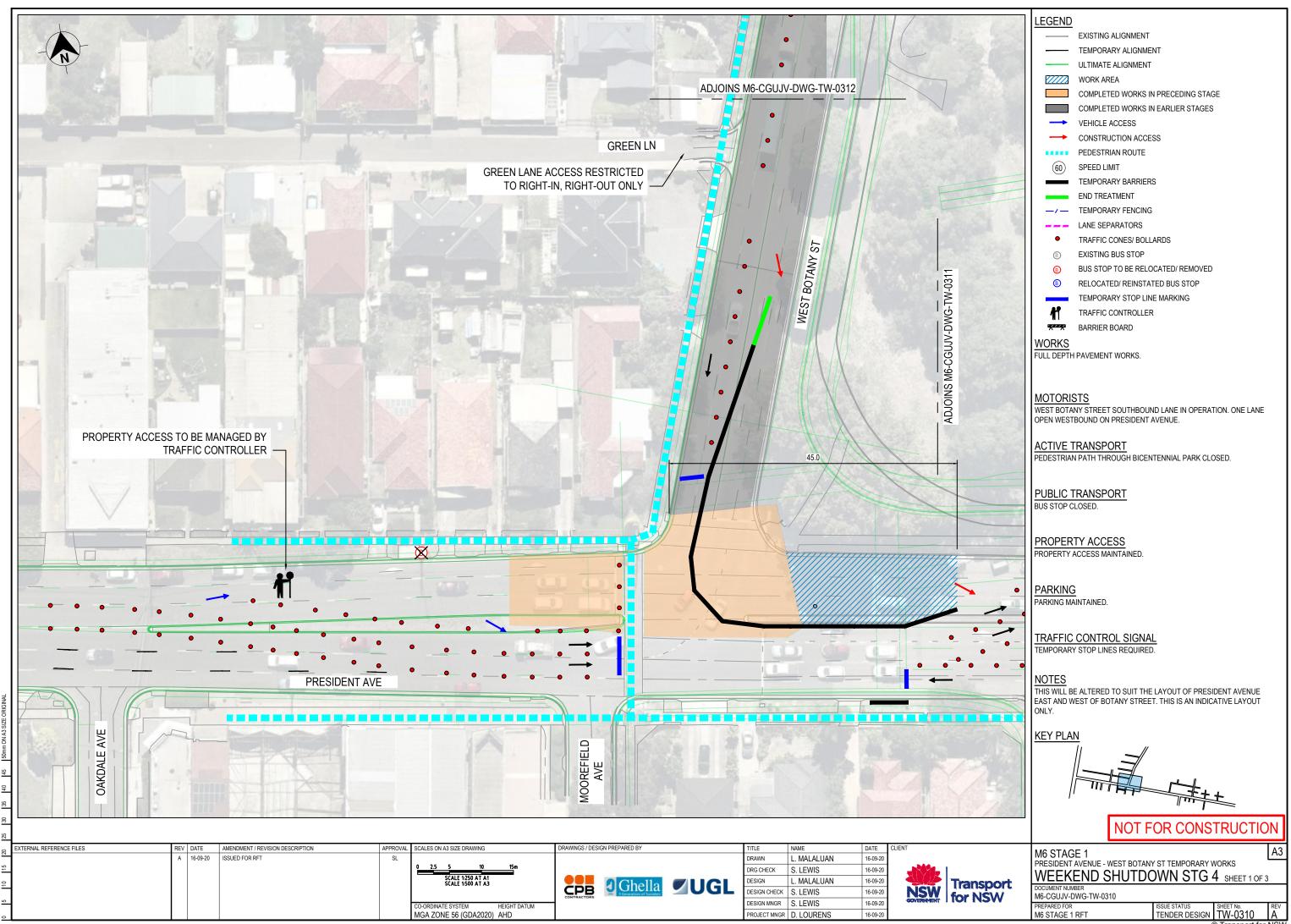




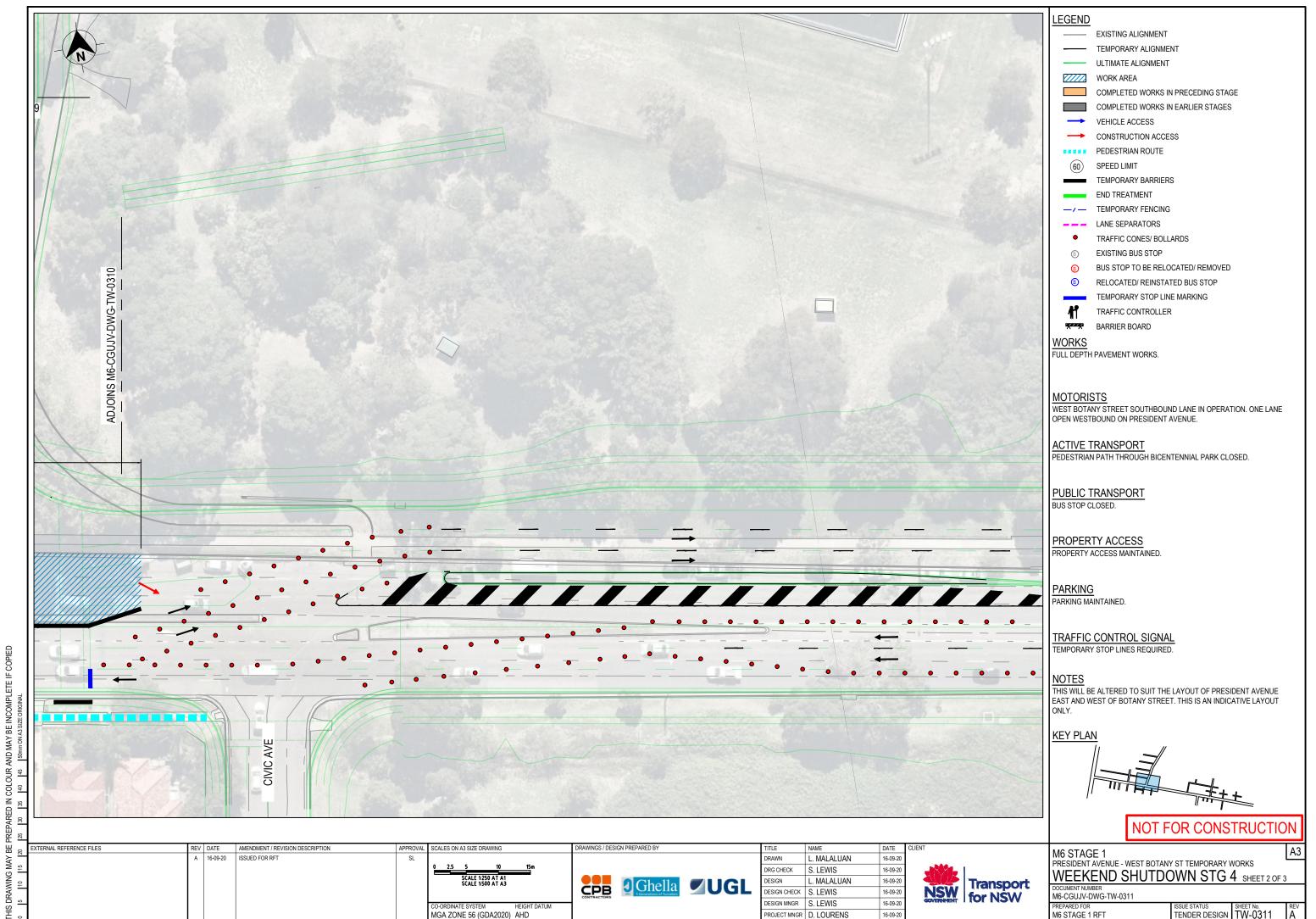
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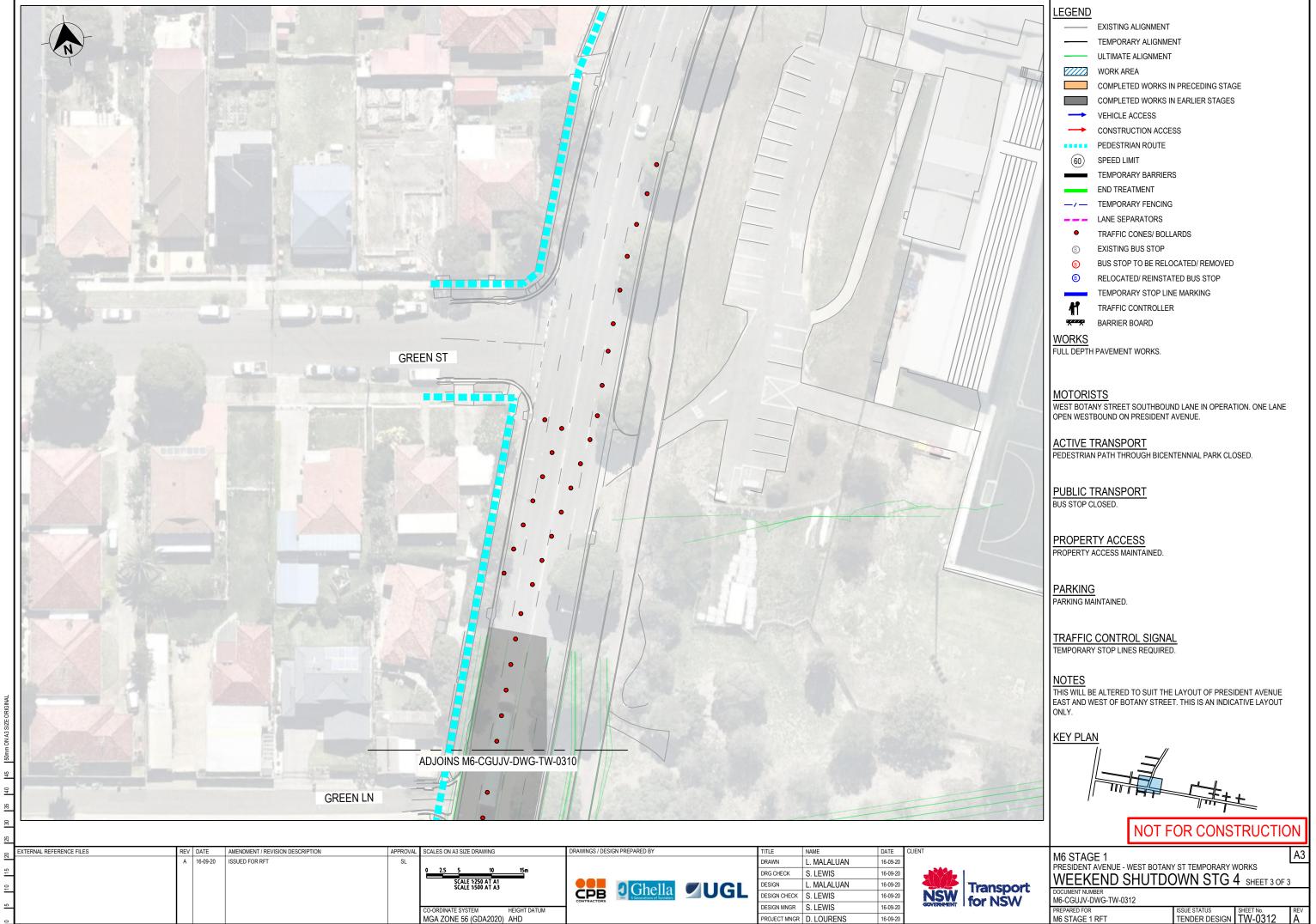
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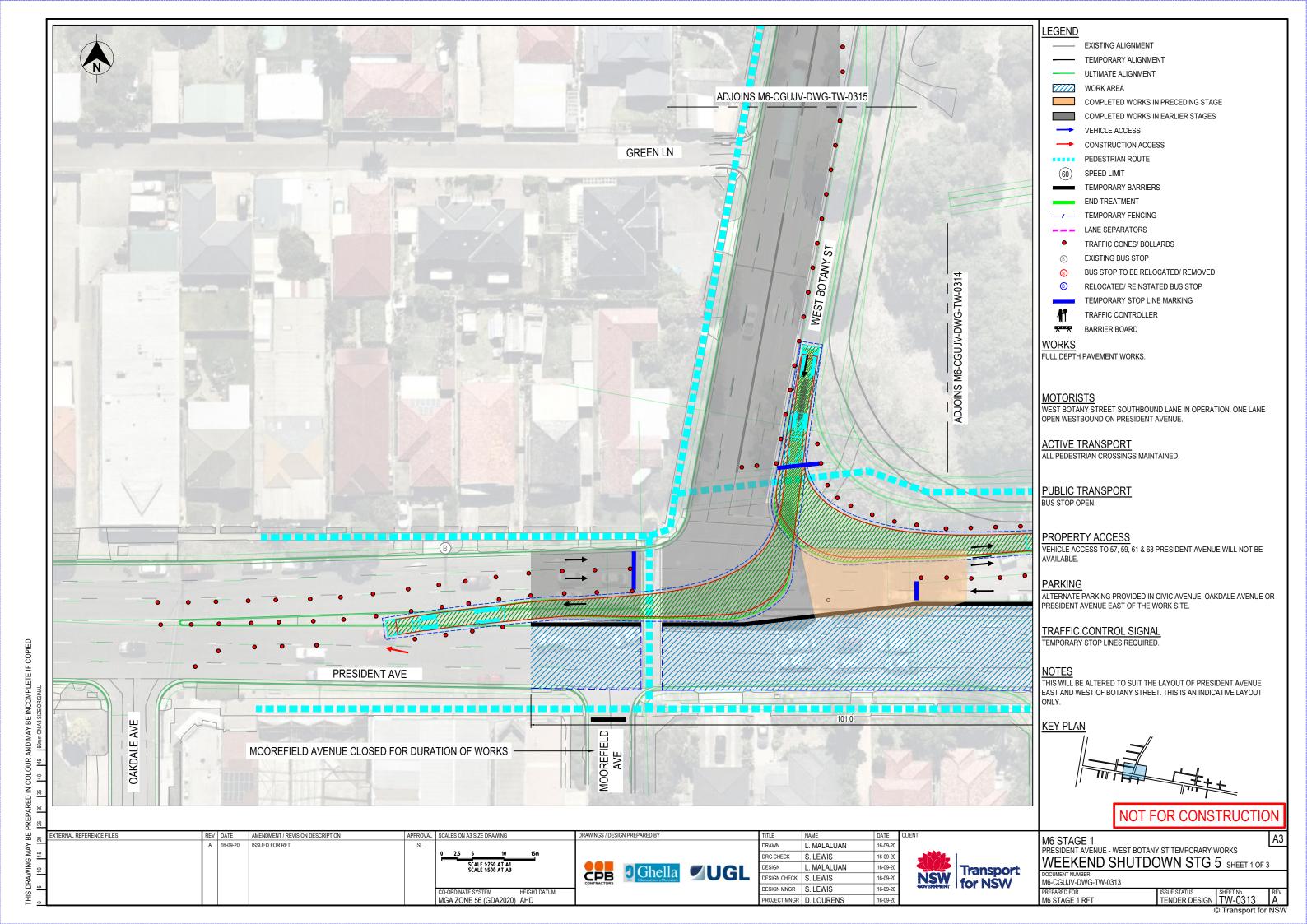
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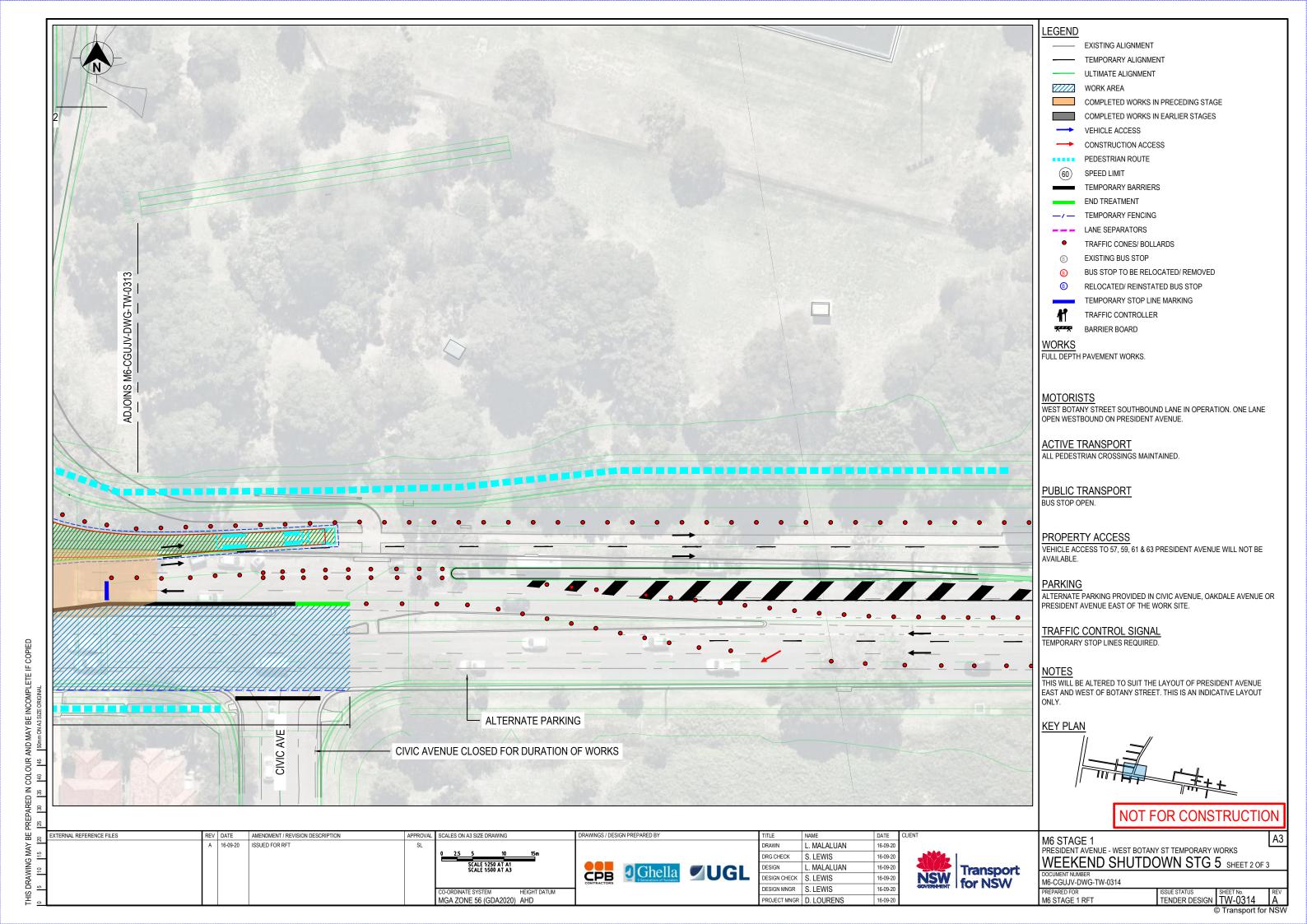


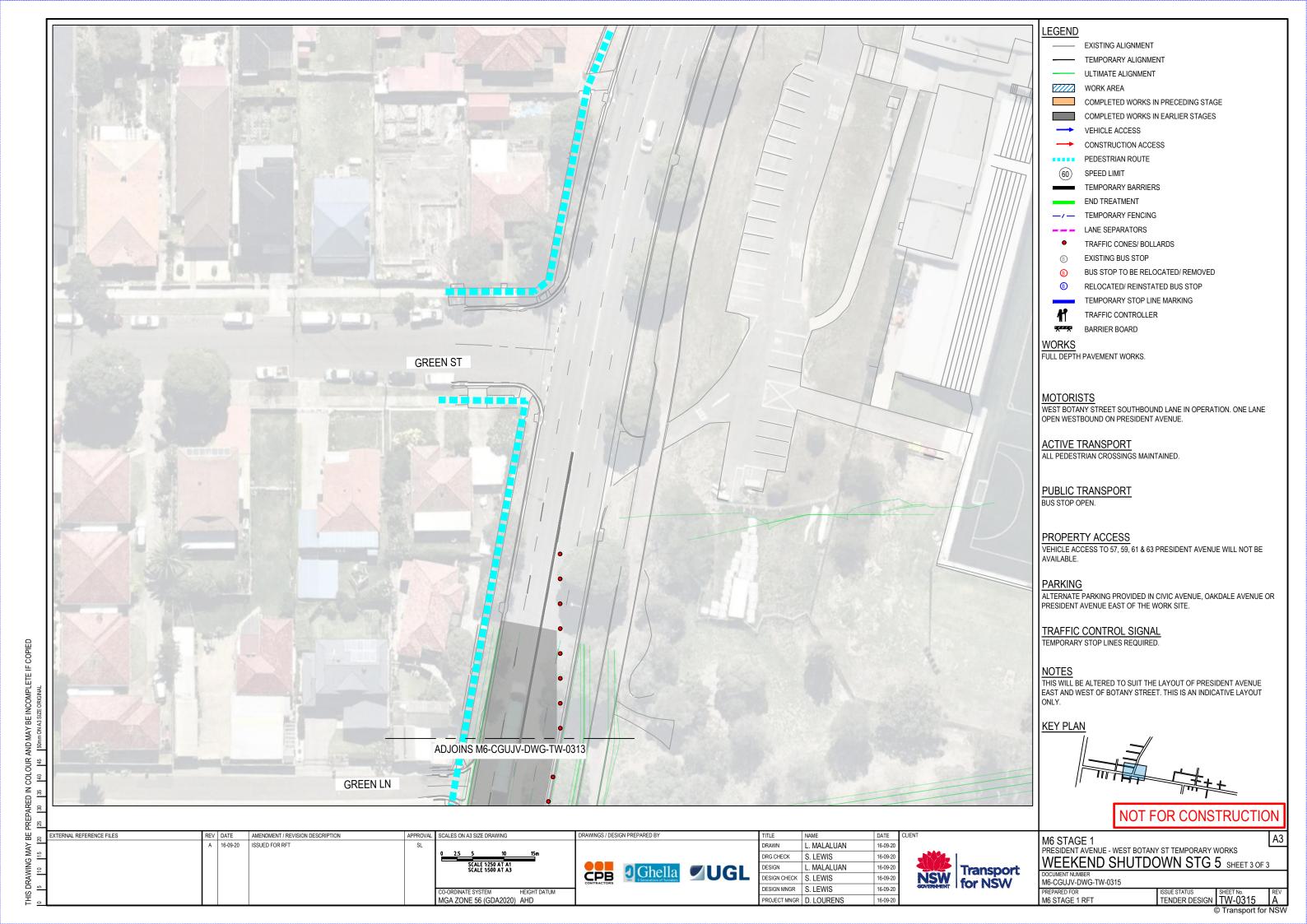
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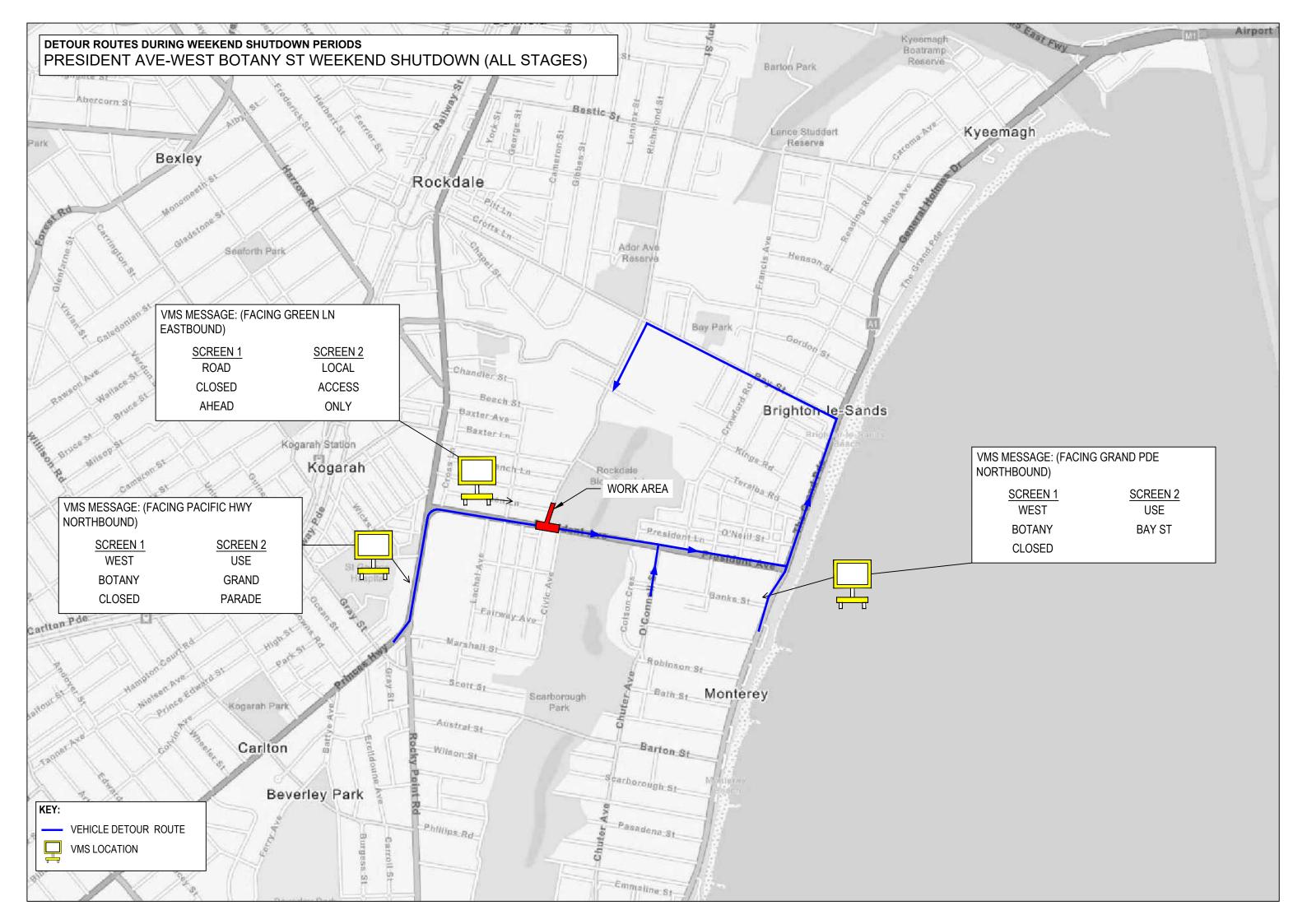


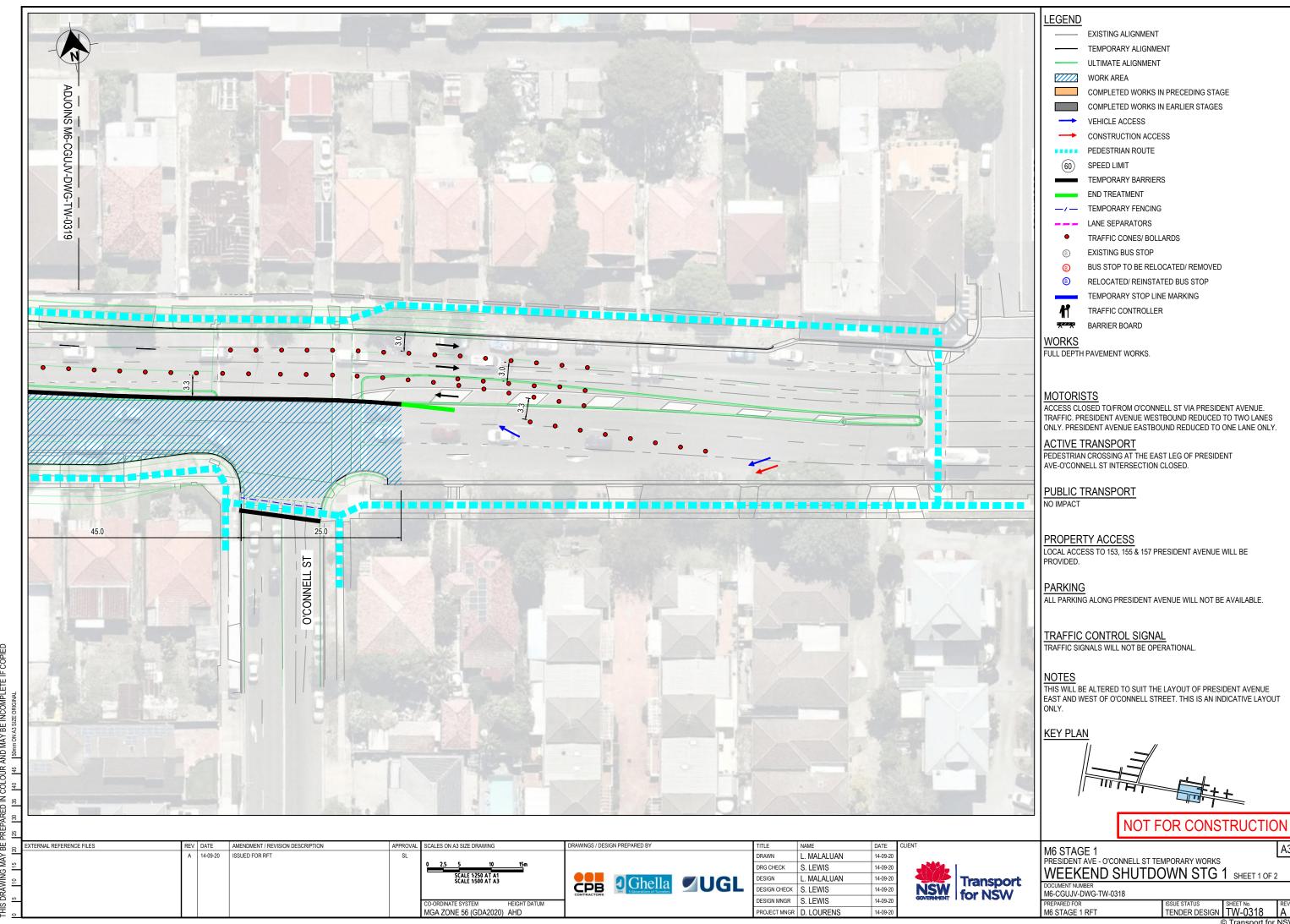
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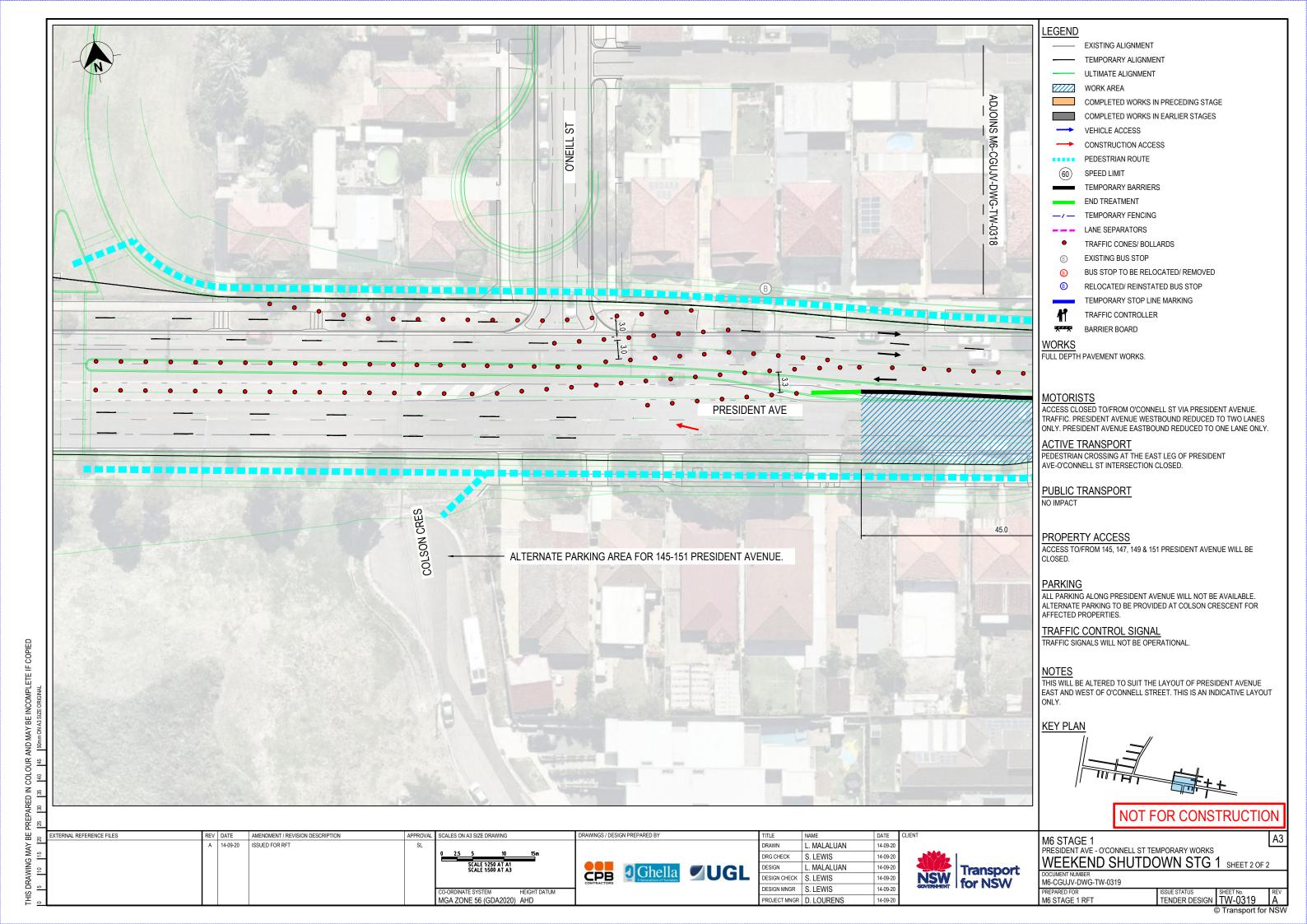


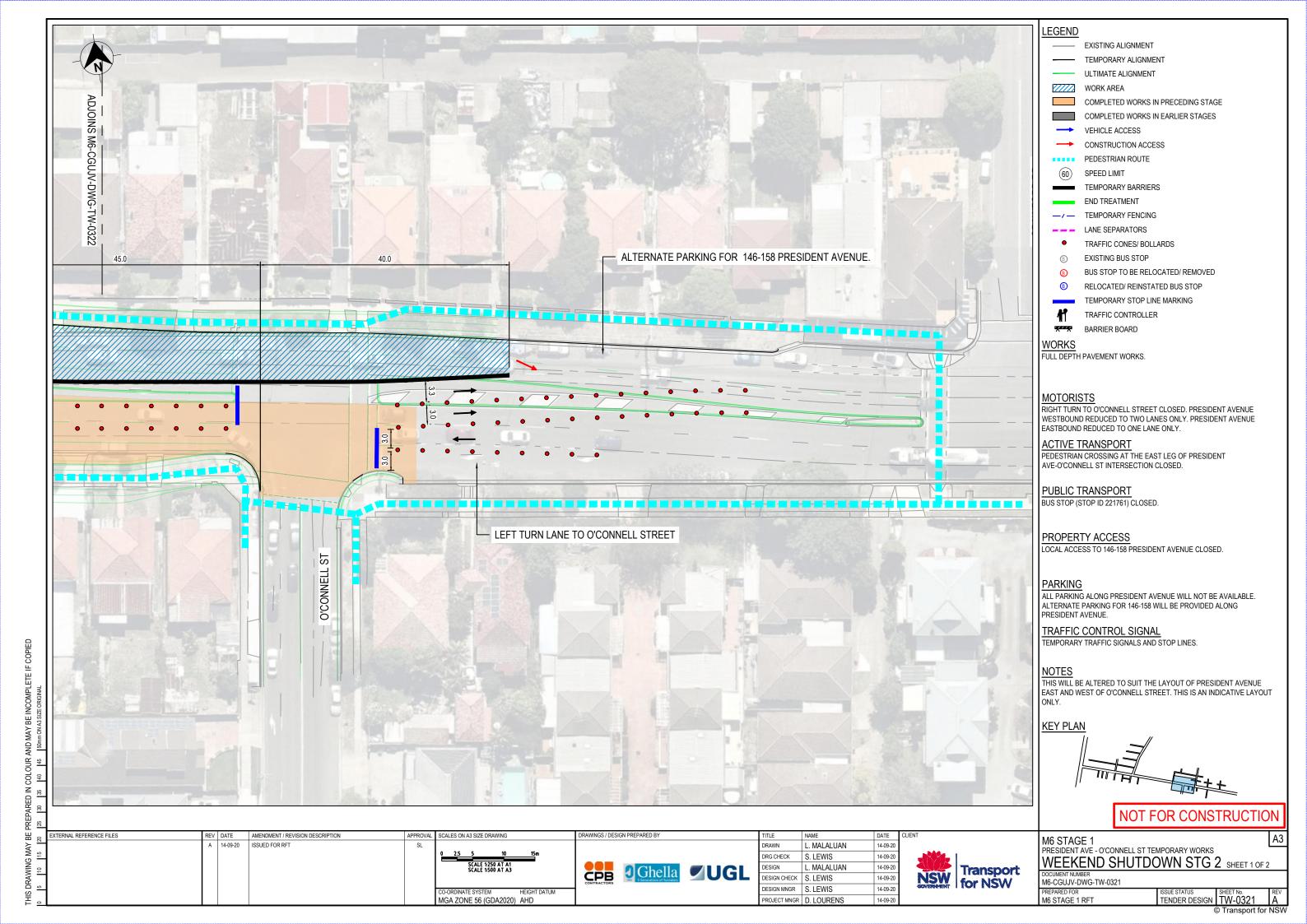


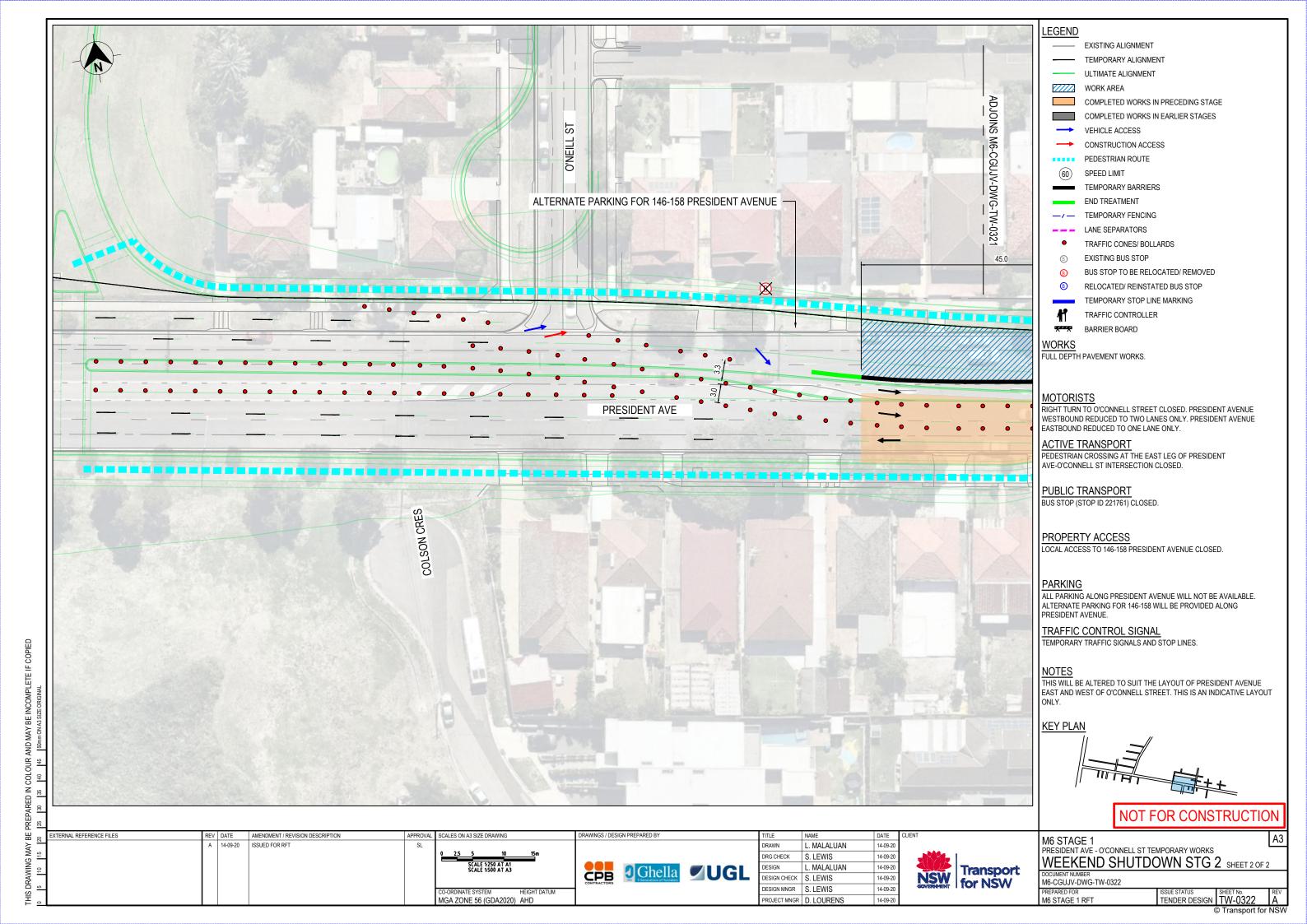


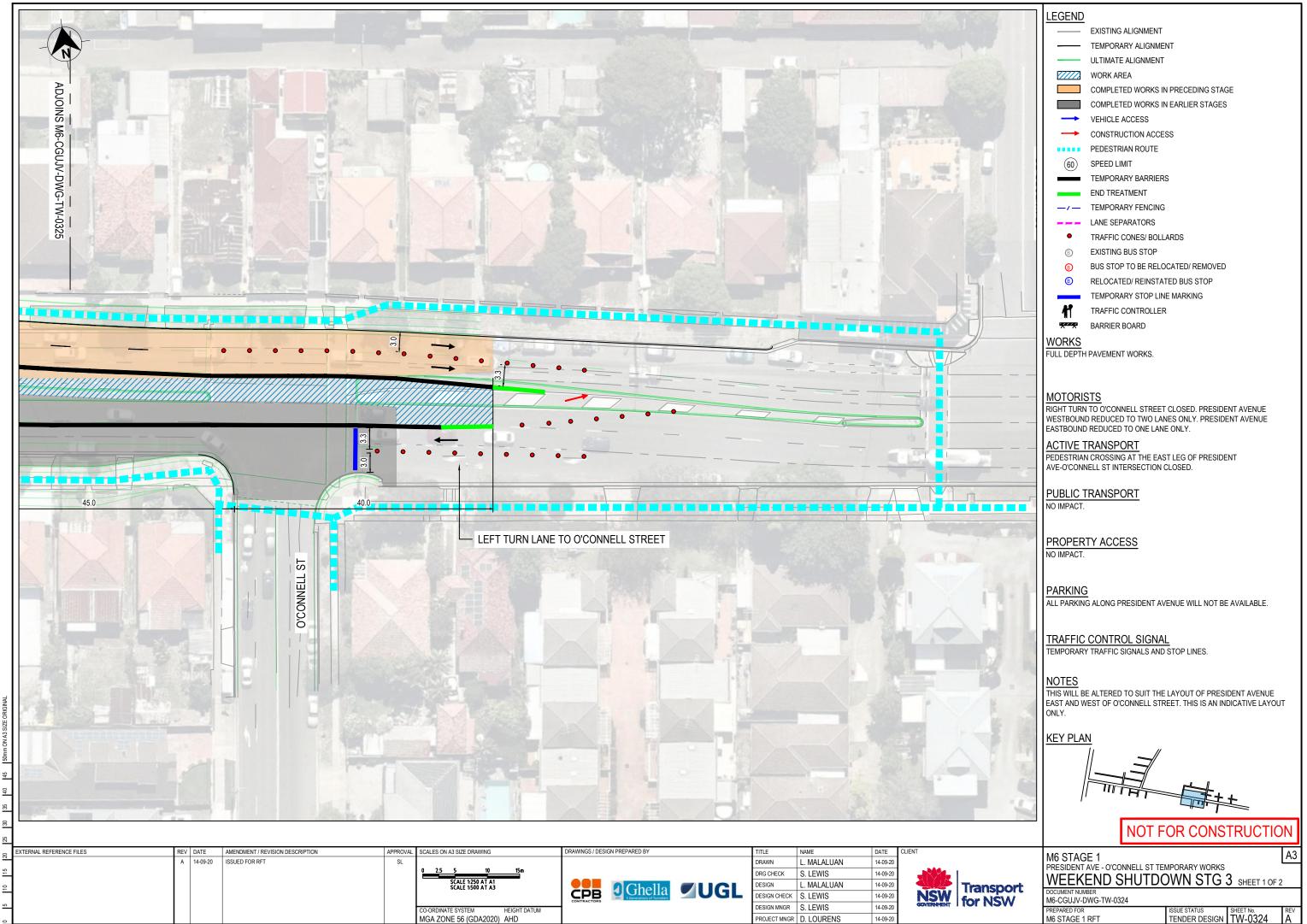




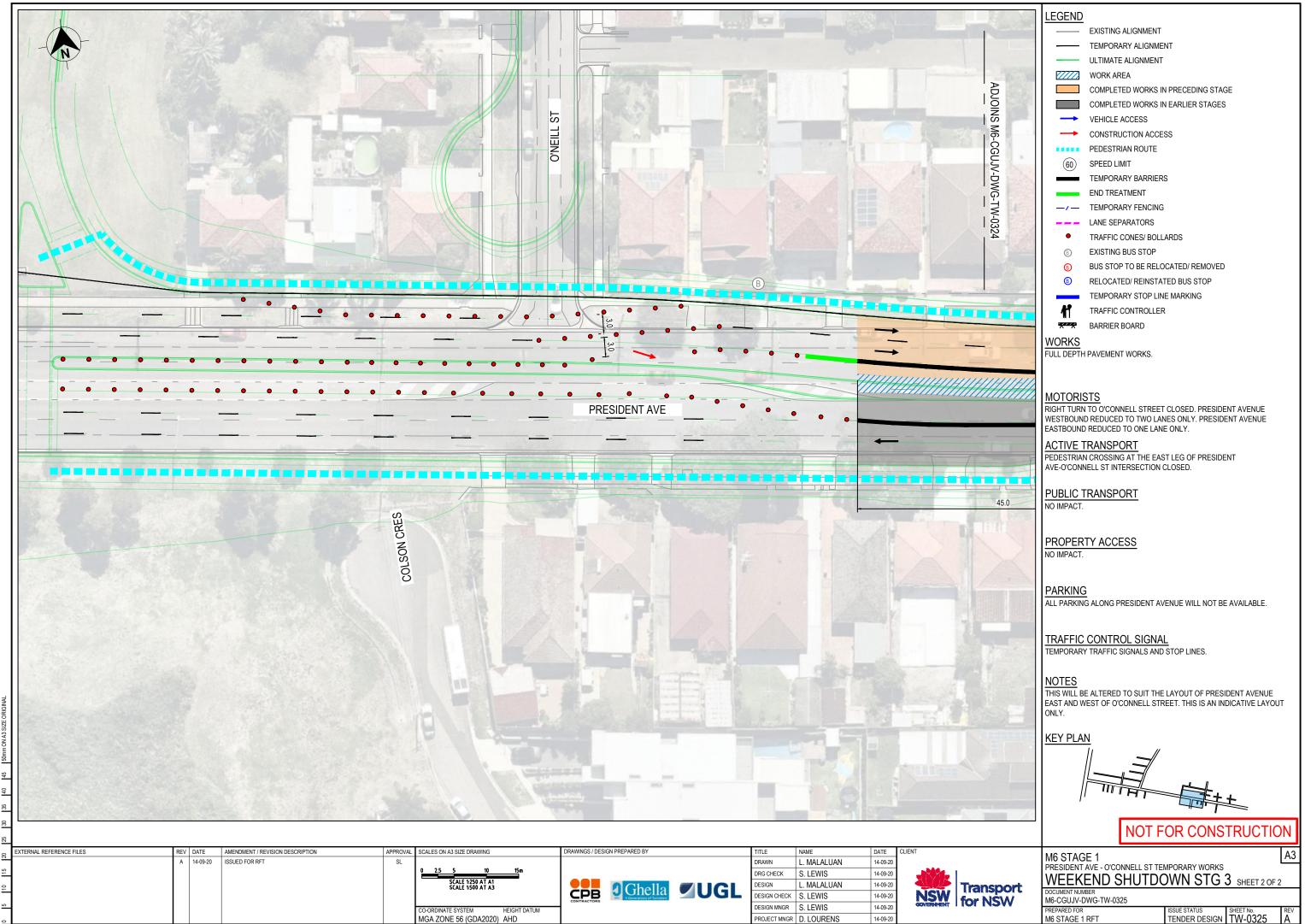




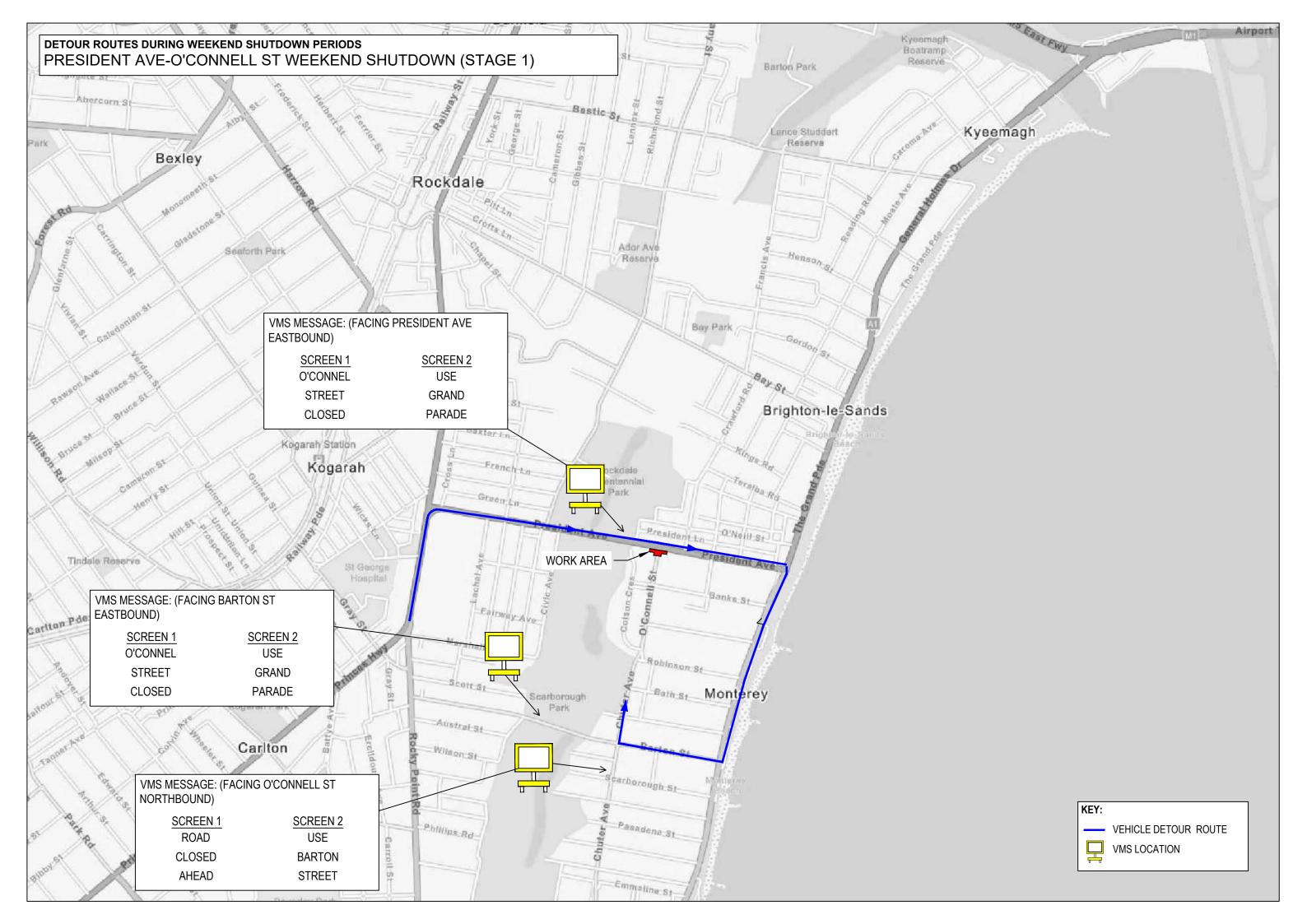


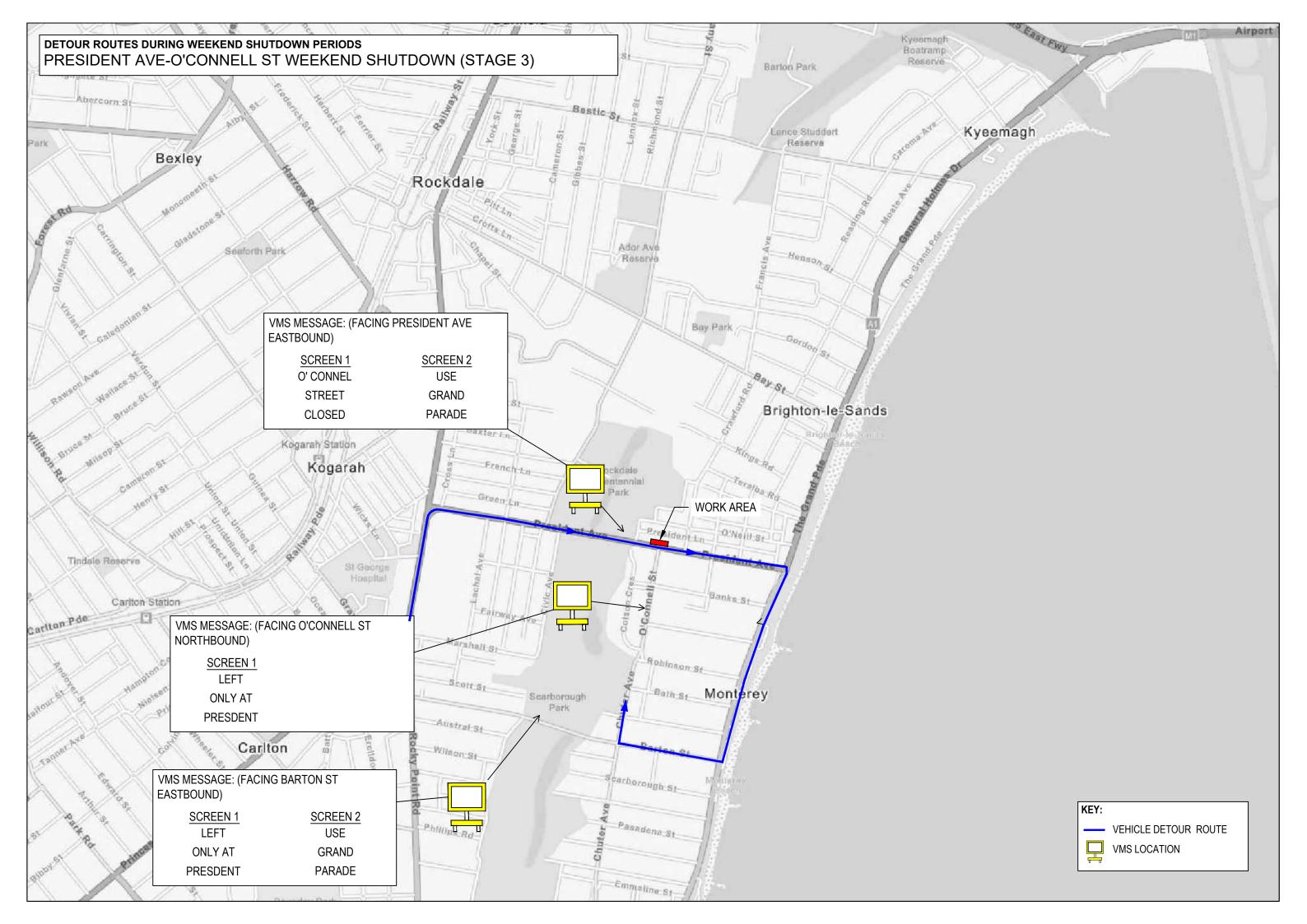


nsport for N



nsport for N





Appendix B – Haul Routes		
71 M6 Stage 1 Traffic and Access CEMP Sub-pla	n	

C1 Marsh Street, Arncliffe

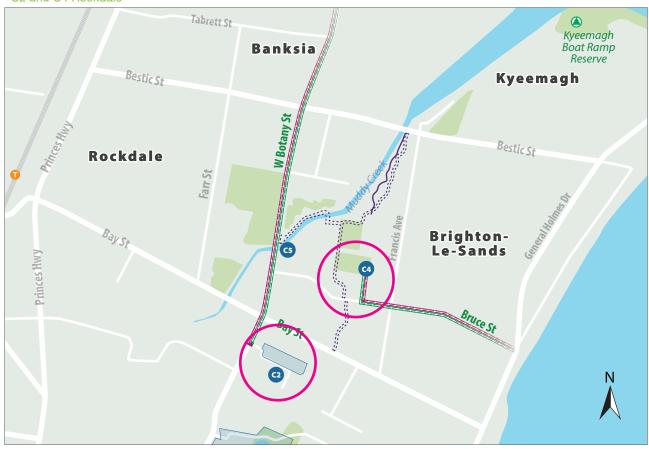


Legend

Weekdays 7am - 6pm
Weekends 6am - 10am
Weekdays 6pm - 7am
Weekends 10am - 6am
Outbound All hours

---- Inbound

C2 and C4 Rockdale



Legend

Construction ancillary facility
Inbound spoil haulage
Outbound spoil haulage

C2 and C3 President Avenue



Legend

Construction ancillary facility
Inbound spoil haulage
Outbound spoil haulage

Appendix C – Drivers Code of Conduct					
72 M6 Stage 1 Traffic and Access CEMP Sub-plan					







HEAVY VEHICLE DRIVER CODE OF CONDUCT

Purpose and Objectives

The purpose of the Heavy Vehicle Driver Code of Conduct is to ensure that the impacts of construction traffic on transport networks and adjoining properties is minimised. This Code clearly defines and details acceptable behaviour for all heavy vehicle drivers operating in connection with the WFU Works including employees, suppliers and subcontractors.

Responsibilities of Drivers

- Drivers must follow ALL road rules and regulations required by law.
- Drivers must:
 - ▶ Hold a current and appropriate licence for the class of vehicle they are operating
 - Comply with speed limits on all roads
 - Comply with all road works speed limits
 - Obey construction traffic signs and devices
 - Obev sign posted (road) load limits
 - ▶ Ensure the vehicle does not exceed mass or dimension limits
 - Ensure loads are distributed to remain within the capacity of the vehicle and axles
 - Restrain loads appropriately in accordance with the NTC Load Restraint Guide.
 - Make sure that your vehicle is roadworthy and well maintained
- Drivers must drive safely which includes, but is not limited to:
 - Making sure you are medically fit to drive, have no alcohol in your system and you are not under the influence of drugs
 - Driving in a calm, courteous manner that is appropriate with existing road, traffic and weather conditions
 - Not operating any vehicles or machinery while suffering from fatigue
 - Implementing fatigue management and rest laws and procedures
 - Responding to changes in circumstances (such as delays), reporting these to your base (if possible) to implement short-term fatigue management measures
- Making sure that your rest breaks are taken at the prescribed intervals and are effective
- If you are concerned about the placement of a load or mass of loaded materials raise the issue with the CGU Supervisor and do not leave site.
- Drivers must behave in a professional manner at all times.
- Drivers must adhere to routes nominated by CPB Downer JV for each specific worksite and they must not use any roads if their weight is over the posted load limit.
- Routes passing schools and childcare centres are subject to school zone. During the hours of 08:00-09:30 and 14:30 - 16:00 the speed limit is 40KMH. These locations and times will be identified and confirmed by CGU during planning of the work and communicated to all drivers.
- Drivers should only park or wait in approved areas as directed by CGU. DO NOT queue at worksite gates.
- Drivers are to arrive and depart from worksites as required by CGU. Drivers will be turned away if they arrive outside of the CGU approved hours and the truck operating company will be
- Turn vehicles off when not in use or required to idle for long periods of time.
- Drivers must not leave their vehicle unless it is correctly parked, has been turned off, hand brake applied, and the keys removed.
- Drivers leaving their vehicle must wear appropriate PPE (safety boots, long pants, Hi-Vis long sleeve shirt, hard hat and safety glasses).







- Vehicles must not transfer dirt or debris onto public roads. You must use rumble grids/ wheel wash units where they are installed. If any materials are deposited on public roads you must immediately contact your Supervisor and the CGU Supervisor to arrange for the road to be
- Before leaving any site it is mandatory to cover truck loads and tailgates and draw bars must be free of loose material.
- If approached by people with enquiries about the Project Works, drivers should remain polite and provide them with the community information line number (TBC). Do not provide any other information about the project.
- Drivers must comply with the CGU Non negotiables', which have been communicated via Inductions.
- As a courtesy to people who may be impacted by driver behaviour, drivers will:
 - Use horns only in an emergency or for safety reasons
 - Not tailgate (drive too close to other vehicles)
 - Not use compression braking if possible where noise is likely to adversely impact on residents
 - Ensure that there is no littering
 - Not block residential driveways or any other access points.

Declaration

I have read and understand the above conditions and will e Conduct.	nsure that I abide by	this Cod	de of
Signed:	Date:	/	/
Print Name:	Company:		

Appendix D – Special Events

Month	Date	Event	
January	26 January	Australia Day	
February	No known events		
March	Varies by year	Mardi Gras	
April	25 April	Anzac Day	
	Varies by year	Vivid	
May	Varies by year	Half Marathon	
	Varies by year	Mother's Day	
June	Varies by year	Vivid	
July	Varies for 2023 only	Women's Football World Cup	
August	Varies for 2023 only	Women's Football World Cup	
	Varies by year	City to Surf	
September	Varies by year	Father's Day	
	Varies by year	Marathon	
October	Varies by year	Spring Cycle	
November	Varies by year	Spring Cycle	
December	31 December	New Year's Eve	