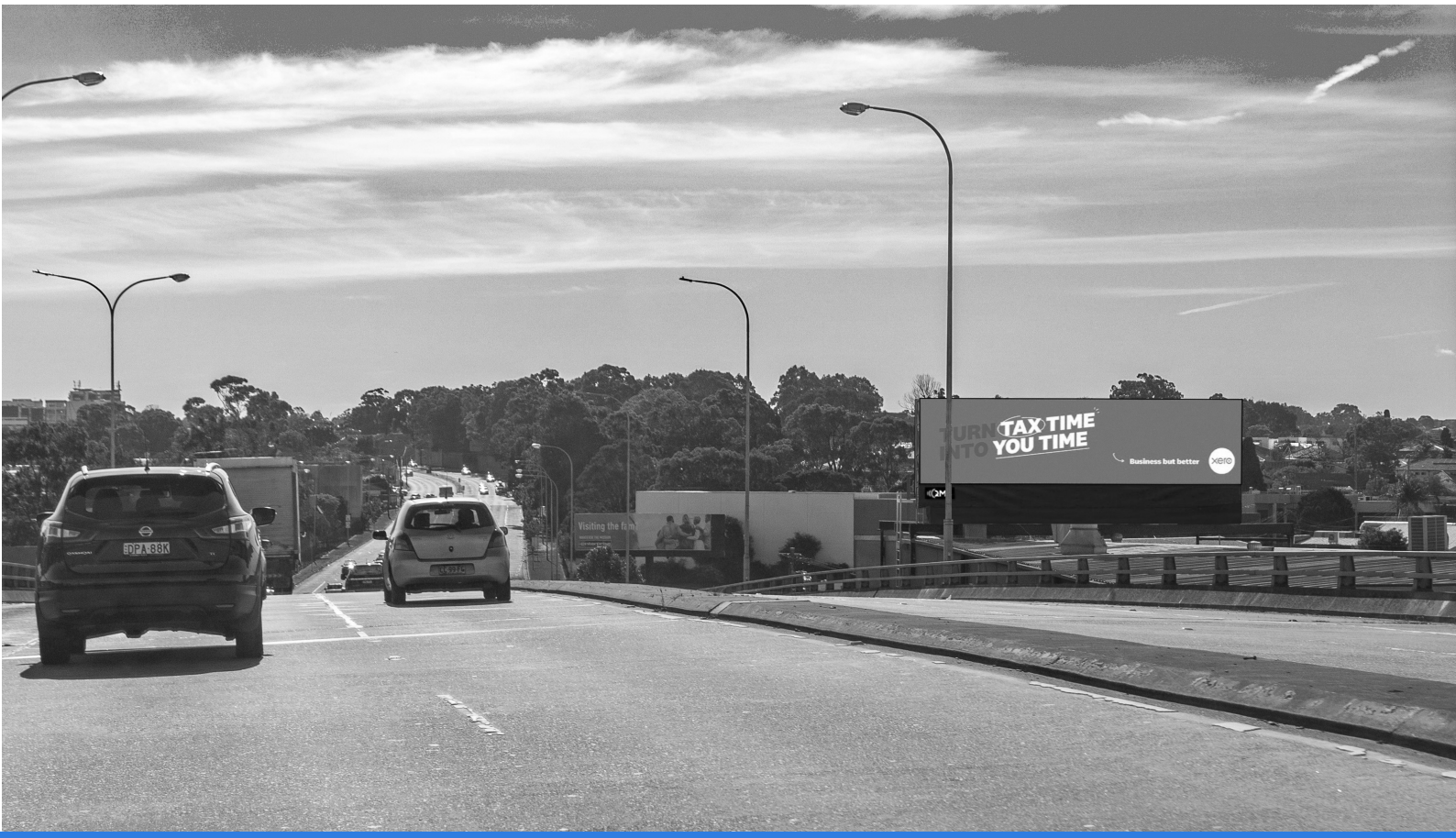

Fairford Road, Bankstown
Digital Signage Safety Assessment

Prepared for:

QMS Media

29 October 2024

The Transport Planning Partnership

Fairford Road, Bankstown

Digital Signage Safety Assessment

Client: QMS Media

Version: V02

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Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	29/10/2024	James Goodman	Wayne Johnson	Wayne Johnson	DRAFT
V02	29/10/2024	James Goodman	Wayne Johnson	Wayne Johnson	

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APPENDICES

1 Introduction

1.1 Overview

QMS Media is seeking approval to install a digital sign at 2-4 Warren Avenue, Bankstown facing northbound traffic on Fairford Road.

The Transport Planning Partnership (TTPP) has been commissioned by QMS Media to undertake a digital signage safety assessment. This assessment has been carried out in accordance with Department of Planning's *Transport Corridor Outdoor Advertising and Signage Guidelines*, November 2017 (Guidelines) and Chapter 3 of *State Environmental Planning Policy (Industry and Employment) 2021* (Industry and Employment SEPP).

The Guidelines outline best practice for the planning and design of outdoor advertisements in transport corridors. The Industry and Employment SEPP sets out rules regarding outdoor advertising signage for permissible locations and exempt developments.

1.2 Purpose of this Report

The aim of this assessment is to determine the suitability of the proposed digital sign and provide recommendations on mitigation measures to alleviate impacts on the surrounding road network. This report sets out the findings of TTPP's safety assessment for the proposed digital sign at 2-4 Warren Avenue, Bankstown.

The following items have been considered in this report:

- Potential for the signage to obstruct or distract a driver's view of the road, traffic control devices and signalised pedestrian crossings.
- Distance from upstream or downstream intersections or other decision points, such as pedestrian crossings and traffic signals.
- Potential for the signage to distract at a critical time or for an extended period of time.
- Location relative to the carriageway and its potential to be a physical obstruction for vehicles or other road users.
- Appropriate dwell times based on the speed environment.
- Location in relation to other signage.

1.3 References

In preparing this report, reference has been made to the following:

- A site inspection of the location from a driving viewpoint along Fairford Road in close proximity to the proposed sign was undertaken during October 2024.
- Austroads Guide to Road Design Part 3, Geometric Design, 2016.
- Transport Corridor Outdoor Advertising and Signage Guidelines, November 2017 by Department of Planning and Environment.
- State Environmental Planning Policy (Industry and Employment) 2021.
- Concept design plans for the proposed sign dated 23 July 2024.

2 Proposal Description

2.1 Location Details

A digital LED sign is proposed to be installed on the east side of Fairford Road facing northbound traffic on Fairford Road. The sign will be mounted on top of the building located at 2-4 Warren Avenue, Bankstown but would not be visible from Warren Avenue or Canterbury Road.

The sign would be located 500m south of the signalised intersection with Fairford Road and Stacey Street, and 700m north of the signalised intersection with Fairford Road and the M5 Motorway. In the immediate vicinity of the proposed sign, the posted speed limit on Fairford Road is 70km/h.

An aerial image of the sign location (marked red) and surrounding environs are shown in Figure 2.1.

Figure 2.1: Sign Location

Basemap source: NearMap, aerial imagery dated 24 September 2024.

2.2 Description of the Proposed Sign

As per the Industry and Employment SEPP, the advertising display area is defined as follows:

> *"advertising display area means, subject to subsection (2), the area of an advertisement or advertising structure used for signage, and includes any borders of, or surrounds to, the advertisement or advertising structure, but does not include safety devices, platforms or lighting devices associated with advertisements or advertising structures."*

The advertising display area of the proposed digital sign would be 41.51m^2 in area (12.58m width by 3.3m high including the border). The screens would be set upon black cladding which will visually appear as a plain border around the visual screen.

The digital sign would be used to promote sponsors and third-party advertising. The digital sign would contain text and images. Full scale concept design plans are provided in Appendix A.

2.3 Sign Exposure

The proposed digital sign would be visible to motorists travelling in the northbound direction on Fairford Road as shown in Figure 2.2. A site visit was undertaken during October 2024 to inspect driver sight distances on approach to the proposed digital sign. A description of the investigation findings is provided herein.

Figure 2.2: Fairford Road, Bankstown – Travel Lanes

Basemap source: NearMap, aerial imagery dated 24 September 2024

The lane configuration on Fairford Road on the northbound approach to the proposed sign is shown in Figure 2.3. Travel lanes are numbered 1 to 3 from left to right. Lane 1 becomes a 24-hour bus lane that starts approximately 340m downstream of the proposed sign. The sign is not visible for vehicles using the Fairford Road off ramp lanes to Canterbury Road. Parking is prohibited along Fairford Road in proximity of the proposed sign.

Figure 2.3: Fairford Road Northbound Lane Configuration

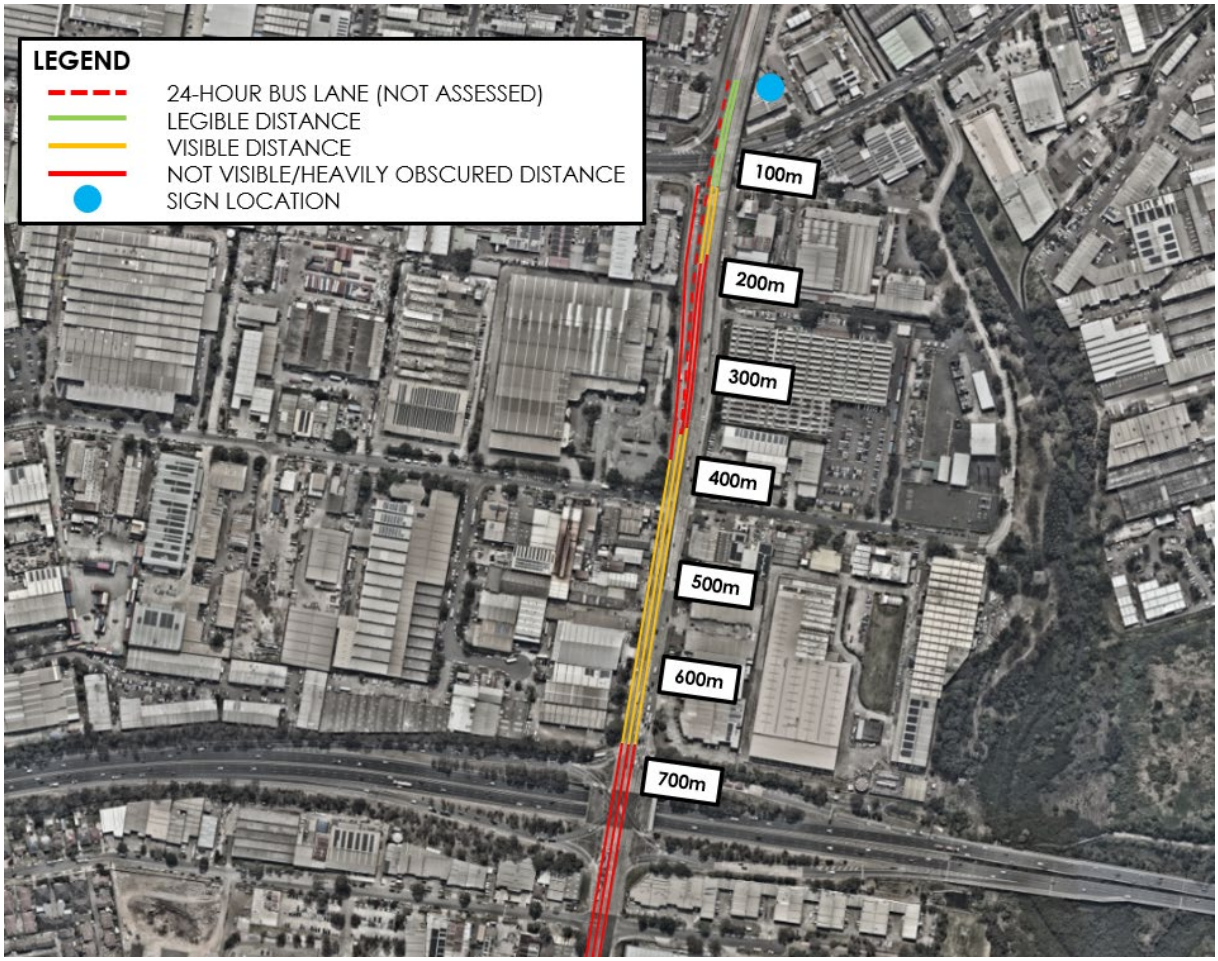
Source: Photograph taken by TTPP dated 13 October 2024.

The key findings are summarised below:

- The digital sign would be visible to motorists travelling on Fairford Road travelling northbound.
- The 24-hour bus lane was not assessed but it is noted that it would have a similar visible and legible distances to Lane 2.
- The distance at which the digital sign would be visible is estimated as 660m from the proposed sign from all lanes. It would be obstructed by light poles, the overpass and the adjacent building beyond this distance.
- From Lane 2 the view to the sign is blocked by the bridge at a distance of 360m from the sign before it becomes visible again 200m from the sign.
- From Lane 3 the view to the sign is blocked by the bridge at a distance of 350m from the sign before it becomes visible again 190m from the sign.
- The sign is not visible from the off-ramp lanes on Fairford Avenue to Canterbury Road.
- The sign would not be legible to drivers on Canterbury Road, and only the structure of the sign would be visible for motorists travelling westbound on Canterbury Road.
- The distance at which the digital sign would be legible in each travel lane is 110m
- Pedestrian volumes in the vicinity were low and there are no pedestrian paths along the Fairford Road overpass above Canterbury Road.
- No significant road safety issues associated with the existing static sign were observed.
- Moderate traffic volumes were observed at the time of the inspection.

An analysis presenting the visible, legible and obscured/not visible distances is provided below in Figure 2.4. Photographs of when the existing static sign is visible and legible from each approach lane on Fairford Avenue are shown in Figure 2.5 to Figure 2.6.

Figure 2.4: Eastbound Approach Legible and Visible Distances



Basemap source: NearMap, aerial imagery dated 24 September 2024

Figure 2.5: Fairford Road Northbound Sign Exposure - Lane 1

Source: Photograph taken by TTPP dated 13 October 2024.
Note: The legible distance could not be assessed from Lane 1 because at this distance it is a 24-hour bus lane

Figure 2.6: Fairford Road Northbound Sign Exposure - Lane 2

Source: Photograph taken by TTPP dated 13 October 2024.

Figure 2.7: Fairford Road Northbound Sign Exposure - Lane 3

Source: Photograph taken by TTPP dated 13 October 2024.

2.4 Crash History

Historic crash data has been obtained from Transport for NSW (TfNSW) and assessed for incidents on Fairford Road within the visible distance of the proposed sign. Crash history data has been assessed on approach to the sign for the most recent five-year period for data collated and published by TfNSW. The period is between 1 January 2019 to 31 December 2023.

Crash data has been reviewed within the legible and visible distance of the proposed sign location, which is up to 660m from the sign. One casualty crash was recorded within the legible distance of the sign which resulted in a minor injury. There was one additional casualty crash recorded within the visible distance of the sign, however this occurred at a distance of 530m from the sign, far beyond the legible distance.

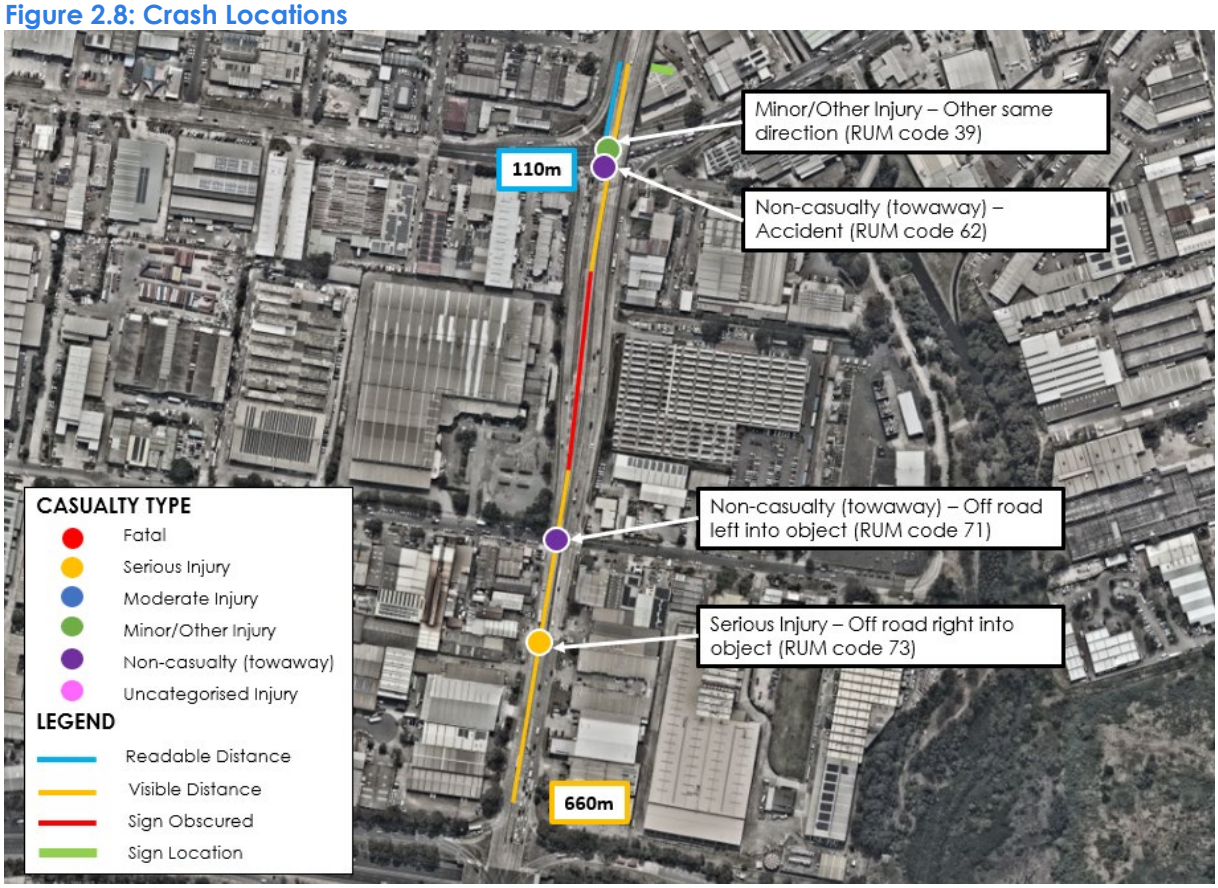
During 2022 (most recent available data), Fairford Road had an annual average daily traffic volume of more than 29,000 vehicles in the northbound direction according to TfNSW's Traffic Volume Viewer. Two casualty incidents is not considered unusual for an arterial road in this setting given the high volume of traffic and highly urbanised road environment.

A summary of the crashes within the visible and legible distance of the sign is presented in Table 2.1. The crash locations and associated incident descriptions are also shown in Figure 2.8.

Table 2.1: Crash Type and Severity

Crash Type	No. of Crashes	Crash Severity (No. of Crashes)					
		Fatality	Serious Injury	Moderate Injury	Minor Injury	Uncategorised Injury	Non-casualty (tow-away)
Within Legible Distance = 110m							
Other same direction (RUM code 39)	**1**	0	0	0	1	0	0
Accident (RUM code 62)	**1**	0	0	0	0	0	1
Total	**2**	**0**	**0**	**0**	**1**	**0**	**1**
Within Visible Distance = 660m							
Other same direction (RUM code 39)	**1**	0	0	0	1	0	0
Accident (RUM code 62)	**1**	0	0	0	0	0	1
Off road left into object (RUM code 71)	**1**	0	0	0	0	0	1
Off road right into object (RUM code 73)	**1**	0	1	0	0	0	0
Total	**4**	**0**	**1**	**0**	**1**	**0**	**2**

Figure 2.8: Crash Locations



Map source: NearMap, aerial imagery dated 21 September 2024.

3 Literature Review

Generally, there is a misperception that a digital sign may cause an unsafe level of distraction for a motorist which is likely to result in a crash. This section includes a literature review of existing studies undertaken in Australia on digital signs and their effects on road safety. A summary of these studies is provided below.

3.1 Relationship between Fixation and Distraction (Samsa)

A study was carried out in November 2015 by Carolyn Samsa, Level 3 Road Safety Auditor at Samsa Consulting, which assessed whether digital billboards are distracting to motorists.

The study included 29 participants aged between 25 and 54 years old fitted with eye tracking glasses driving an instrumented vehicle along a 14.6km route in Brisbane, Queensland. This route passed a number of advertising signs, including digital and static billboards and on-premises signage. The number of fixations and dwell times towards advertising signs were recorded, along with lateral deviation and vehicle headway.

The study identified that the average eye fixation duration spent by drivers observing a digital billboard is 0.207 seconds. This is well below 0.750 seconds which is considered to be the minimum perception-reaction time to an unexpected event. This indicates that motorists would not spend long periods fixated on the proposed digital sign and motorists would have spare cognitive capacity to observe the road environment ahead in the presence of a digital sign without an increased risk of a collision.

The study also identified that digital billboards do not draw drivers' attention away from the road for dangerously long periods of time compared to other signage types (i.e. static billboards and on-premise advertising signs). The findings of Samsa's investigation supported international studies which generally found that the presence of billboards did not significantly affect the percentage of time drivers devoted to glancing at the forward roadway.

3.2 On-Road Driving Performance from Digital Signs (ARRB)

A study undertaken by the Australian Road Research Board (ARRB) (2018) evaluated the on-road driving performance of digital billboards at two intersections in Queensland.

The study assessed the impact on driving performance before and after installation of new digital billboards at two Queensland intersections at Phillip St-Dawson Hwy Gladstone and Elkhorn Ave- Surfer's Paradise Blvd Surfers Paradise. These two signs used three different dwell times of 30 seconds, 20 seconds and 10 seconds, and 24 seconds, 16 seconds and 8 seconds, respectively.

The study found that vehicle lateral control performance either improved or was unaffected by the presence of digital billboards at various dwell times. These results were consistent with previous research which showed that drivers are able to safely view roadway signage for relatively long periods of time if the sign is positioned at a relatively narrow angular offset from the centreline of the road (e.g. Schieber, Burns, Myers, Gilland & Willian, 2004).

The study concluded that ***"there was almost no evidence that the digital billboards at these locations impaired driving performance"***. The study also identified that there could be an apparent positive impact on driving performance from the presence of a digital billboard, as evidenced in the reduction in stopping over the line violations post-installation of the digital sign.

3.3 Relationships between Distraction and Crashes (Bitzios)

Based on Bitzios' literature review in previous digital signage traffic assessments, Bitzios has noted that current research on digital signs and distractions indicate that there is no valid link between roadside advertising and increased crash risk; namely:

"There is consensus in the literature that the majority of crashes which occur in urban areas are due to driver error. Victor et al. (2005) highlights that human error is the cause of up to 92.6 percent of accidents on the road. In order to minimise the risk of crashes drivers need to: be aware of external environmental influences, interpret the risks associated with these external environmental influences, make decisions, and carry out actions (Perez & Bertola 2011).

Even though human error is the cause of most crashes, Lam (2002) reviewed NSW crash data and found that out of 414,136 crashes, distraction was a factor in 15,059 (3.6%) of them. Distractions coming from outside the vehicle were determined to be a factor in only 2.5% of all crashes. This low influence of external distractions to crashes was reinforced by the Monash University Accident Research Centre (MUARC) carried out a study on crashes in Victoria and NSW between 2000 and 2011, and found the most common causes of crashes as summarised in Table 6.1 [table below]."

Table 3.1: Causes of Vehicle Crashes in NSW and Victoria

Percentage of Crashes	Cause
13.5%	Intoxication
11.8%	Fell asleep
10.9%	Fatigued
3.2%	Failed to look
3.2%	Passenger interaction
2.6%	Fell ill
2.6%	Blacked out
1.8%	Feeling stressed
1.5%	Looked but failed to see
1.4%	Animal or insect in vehicle
0.9%	Using a mobile phone
0.9%	Changing CD/cassette/radio
0.9%	Adjusting vehicle systems
0.9%	Looking at vehicle systems
0.3%	Searching for objects

Source: Bitzios, Cormorant Road, Kooragang, Proposed Westbound Digital Sign Traffic Safety Assessment (2022)

Based on Bitzios' study, it is evident that driver distraction due to the presence of billboards/ advertising signage is not a common cause of crashes. This is also consistent with Austroads' (2013) findings on the effect of roadside advertising on road crashes, which found that "*while looking at an external object appears to be quite risky behaviour when it is engaged in, it is not a frequent cause of crashes overall*".

3.4 What attracts attention when driving? (Hughes and Cole)

A study by Hughes and Cole was carried out in 1984 which assessed which elements of the road attract drivers' attention. The study was conducted with two groups of observers asked to report these elements. One group was observed while driving along a 21.9 km route, while the second group made similar reports while watching a video of the same route.

The study determined that in areas of little advertising, more attention was diverted to other objects not related to driving. Between 30 to 50% of attention was devoted to such objects, which suggests drivers have spare attention capacity. Restricting or removing advertising may not result in more attention given to driving-related tasks and may simply divert attention to objects not relevant to driving.

3.5 The Impact of Driver Inattention on Near-crash/crash Risk: An Analysis Using the 100-car Naturalistic Driving Study Data (Klauer et al)

A study by Klauer et al was conducted in 2006 to analyse driver inattention using large-scale naturalistic driving data. The study analysed data collected over an 18-month period representing normal, daily driving including distraction, drowsiness, aggressive driving, driving errors and vehicle dynamics. Driver inattention factors were classified as one of the following:

- Driver engagement in secondary tasks
- Driver drowsiness
- Driving-related inattention to the forward roadway
- Non-specific eyeglance away from the forward roadway

The impact of these factors was quantified using crash and near-crash data by comparing to baseline driving data.

The analysis of eyeglance behaviour indicated that eye-off-road durations longer than 2 seconds significantly increased near-crash/crash risk while durations shorter than 2 seconds did not significantly increase risk relative to normal driving. Outdoor advertising is designed to be a 'glance medium' requiring only short glances of only a second to read the message, which would not significantly impact road safety.

3.6 Driving Performance and Digital Billboards (Lee et al)

A study by Lee et al was conducted in 2007 to determine the effect of the presence of digital billboards on driving behaviour in comparison to everyday driving. Driving performance was measured based on eyeglance performance, speed maintenance and lane keeping in the eight seconds leading up to the events of interest. Participants drove an instrumented vehicle on a 50-mile loop route and encountered five digital billboards, 15 conventional billboards, 12 comparison sites similar to everyday driving and 12 baseline sites with no signs.

The study determined that there was no difference in the overall glance patterns between sites. Drivers also did not glance more frequently at digital billboards than at other sites. The average glance length toward digital billboards was also less than one second, and there were only minor differences in speed maintenance and lane keeping performance.

3.7 Summary of Literature Review

The above literature review suggests that there is no indication that digital signs will contribute to driver distraction resulting in incidents. In addition, there is no evidence that driver behaviour and performance are affected by the presence of digital billboards.

4 Statutory Requirements

This section of the report assesses the compliance with the safety assessment criteria established in the NSW Guidelines and State Environmental Planning Policy (Industry and Employment) 2021. It requires analysis as to whether the proposal would reduce the safety of:

- Any public roads.
- Pedestrians and cyclists.
- Pedestrians by obscuring sight lines from public areas.

The proposed design has been assessed against the relevant statutory requirements and guidelines. In order to assess any installation against the key safety assessment criteria, a series of detailed criteria are set out in Section 3, Advertisements and Road Safety of the NSW Guidelines.

4.1 Industry and Employment SEPP Schedule 5

Clauses 1 to 7 of the Industry and Employment SEPP – Schedule 5 refer to aspects that are unrelated to road safety, as outlined in Appendix B. However, Clause 8 is related to road safety, and thus, is covered under this signage safety assessment as follows:

(a) Would the proposal reduce the safety for any public road?
(b) Would the proposal reduce the safety for the pedestrians or bicyclists?
(c) Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?

Provision of a digital sign at 2-4 Warren Avenue is unlikely to reduce safety for motorists, pedestrians or cyclists. The proposed digital sign will be situated adjacent to the roadway, so it will not obscure sightlines.

Assessment of the proposal in accordance with the Department of Planning's *Transport Corridor Outdoor Advertising and Signage Guidelines* has been undertaken in the following sections below.

4.2 Transport Corridor Outdoor Advertising and Signage Guidelines – Digital Signs Criteria (Section 2 of Guidelines)

Transport Corridor Outdoor Advertising and Signage Guidelines specify criteria which are directly applicable to the assessment of digital signs. The criteria have been assessed in Table 4.1.

It is noted that most of the criteria are related to signage content and would need to be addressed by the operator. In addition, this criteria should be included as part of the consent conditions for the proposal to ensure future compliance.

Table 4.1: Digital Sign Criteria (Section 2 of Guidelines)

	Criteria	Comments
A	*Each advertisement must be displayed in a completely static manner, without any motion, for the approved dwell time as per criterion (d) below.*	Relates to sign content only.
B	*Message sequencing designed to make a driver anticipate the next message is prohibited across images presented on a sign and across a series of signs.*	Relates to sign content only.
C	*The image must not be capable of being mistaken:* *i. for a prescribed traffic control device because it has, for example, red, amber or green circles, octagons, crosses or triangles or shapes or patterns that may result in the advertisement being mistaken for a prescribed traffic control device, or* *ii. as text providing driving instructions to drivers.*	Relates to sign content only.
D	*Dwell times for image display are:* *i. 10 seconds for areas where the speed limit is below 80 km/h.* *ii. 25 seconds for areas where the speed limit is 80 km/h and over.*	The sign is located on a road with a speed limit of 70km/h. A dwell time of 10 seconds would be suitable for the proposed digital sign.
E	*The transition time between messages must be no longer than 0.1seconds, and in the event of image failure, the default image must be a black screen.*	An almost instantaneous transition is likely to reduce the additional distraction potential for the digital sign. It has been advised that this operational requirement would be met.
F	*Luminance levels must comply with the requirements in Section 3 (Transport Corridor Advertising Signage Guidelines).*	The sign would be classified as Zone 3. Zone 3 covers areas with generally medium off-street ambient lighting e.g. small to medium shopping/ commercial centres.
G	*The images displayed on the sign must not otherwise unreasonably dazzle or distract drivers without limitation to their colouring or contain flickering or flashing content.*	It has been advised that this operational requirement would be met.
H	*The amount of text and information supplied on a sign should be kept to a minimum (e.g. no more than a driver can read at a short glance).*	Relates to sign content only.
I	*Any signs that is within 250 metres of a classified road and is visible from a school zone must be switched to a fixed display during school zone hours.*	The sign are located on a classified road, but would not be visible from a school zone.
J	*Each sign proposal must be assessed on a case by case basis including replacement of an existing fixed, scrolling or tri-vision sign with a digital sign and in the instance of a sign being visible from each direction, both directions for each location must be assessed on their own merits.*	Noted.
K	*At any time, including where the speed limit in the area of the sign is changed, if detrimental effect is identified on road safety post installation of a digital sign, RMS reserves the right to re-assess the site using an independent RMS-accredited road safety auditor. Any safety issues identified by the auditor and options for*	Noted.

	Criteria	Comments
	rectifying the issues are to be discussed between RMS and the sign owner and operator.	
L	*Sign spacing should limit drivers' view to a single sign at any given time with a distance of no less than 150m between signs in any one corridor. Exemptions for low speed, high pedestrian zones or CBD zones would be assessed by RMS as part of their concurrence role.*	There are no other large format advertising signs located within 150m of the proposed sign facing northbound traffic on Fairford Road.
M	*Signs greater than or equal to 20sqm must obtain RMS concurrence and must ensure the following minimum vertical clearances:* *i. 2.5m from lowest point of the sign above the road surface if located outside the clear zone* *ii. 5.5m from lowest point of the sign above the road surface if located within the clear zone (including shoulders and traffic lanes) or the deflection zone of a safety barrier if a safety barrier is installed.* *If attached to road infrastructure (such as an overpass), the sign must be located so that no portion of the advertising sign is lower than the minimum vertical clearance under the overpass or supporting structure at the corresponding location.*	The Austroads Guide to Road Design Part 6 states that a clear zone is the area adjacent to the traffic lane that should be kept free from features that would be potentially hazardous to errant vehicles. The Guide also acknowledges that it may not be possible to physically provide a clear zone at every location, particularly in well-established urban environments. The proposed digital sign is located within an urban area where there is kerb and guttering which would redirect an errant vehicle. In addition, the sign and its supports are located on top of a neighbouring building and is therefore considered to be in an acceptable location.
N	*An electronic log of a sign's operational activity must be maintained by the operator for the duration of the development consent and be available to the consent authority and/or RMS to allow a review of the sign's activity in case of a complaint.*	Noted.
O	*A road safety check which focuses on the effects of the placement and operation of all signs over 20sqm must be carried out in accordance with Part 3 of the RMS Guidelines for Road Safety Audit Practices after a 12-month period of operation but within 18 months of the signs installation. The road safety check must be carried out by an independent RMS-accredited road safety auditor who did not contribute to the original application documentation. A copy of the report is to be provided to RMS and any safety concerns identified by the auditor relating to the operation or installation of the sign must be rectified by the applicant. In cases where the applicant is the RMS, the report is to be provided to the Department of Planning and Environment as well.*	Noted.

4.3 Transport Corridor Outdoor Advertising and Signage Guidelines (Section 3 of Guidelines)

4.3.1 Sign Location Criteria

4.3.1.1 Road Clearance

(a) The advertisement must not create a physical obstruction or hazard. For example:

i. **Does the sign obstruct the movement of pedestrians or bicycle riders? (e.g. telephone kiosks and other steel furniture along roads and footpath areas).**
ii. **Does the sign protrude below a bridge or other structure so it could be hit by trucks or other tall vehicles? Would the clearance between the road surface and the bottom of the sign meet appropriate road standards for that particular road?**
iii. **Does the sign protrude laterally into the transport corridor so it could be hit by trucks or wide vehicles?**

The digital sign will not physically obstruct any vehicle, pedestrian and cyclist movements as it will be placed on the east side of Fairford Road mounted on top of the building adjacent to Fairford Road. The digital sign will not protrude onto the roadway, and hence the lateral and vertical clearance will be maintained as per existing conditions.

The concept design for the proposed digital sign and its positioning on the east side of Fairford Road are provided in Appendix A.

(b) Where the sign supports are not frangible (breakable), the sign must be placed outside the clear zone in an acceptable location in accordance with Austroads Guide to Road Design (and RMS supplements) or behind an RMS-approved crash barrier.

The Austroads Guide to Road Design Part 6 states that a clear zone is the area adjacent to the traffic lane that should be kept free from features that could potentially be hazardous to errant vehicles. The Guide also acknowledges that it may not be possible to physically provide a clear zone at every location, particularly in well-established urban environments. Regardless, the proposed digital sign is located behind the crash barrier of the bridge.

(c) Where a sign is proposed within the clear zone but behind an existing RMS-approved crash barrier, all its structures up to 5.8m in height (relative to the road level) are to comply with any applicable lateral clearances specified by Austroads Guide to Road Design (and RMS supplements) with respect to dynamic deflection and working width.

The sign screen displays would maintain the existing lateral clearance from Fairford Road as it is in line with the building structure and the existing digital advertising sign facing in the other direction.

(d) All signs that are permitted to hang over roads or footpaths should meet wind loading requirements as specified in AS1170.1 and AS1170.2. All vertical clearances as specified above are regarded as being the height of the sign when under maximum vertical deflection.

The proposed digital sign would not hang over the road on Fairford Road and would be located wholly within the footprint of the building.

During the detailed design phase, the sign would be designed in accordance with Australian Standards AS1170.1 and AS1170.2 to meet the requirements for wind loading, whilst having consideration for height of the sign boards when under maximum vertical deflection.

4.3.1.2 Line of Sight

(a) An advertisement must not obstruct the driver's view of the road particularly of other vehicles, bicycle riders or pedestrians at crossings.
(b) An advertisement must not obstruct a pedestrian or cyclist's view of the road.

The proposed digital sign would be positioned on the east side of Fairford Road and would not extend over the carriageway. There is no pedestrian footpath along Fairford Road in proximity to the sign. Therefore, the proposed digital sign would not obstruct other vehicles, pedestrians or cyclist's view of the surrounding road network.

(c) The advertisement should not be located in a position that has the potential to give incorrect information on the alignment of the road. In this context, the location and arrangement of signs' structures should not give visual clues to the driver suggesting that the road alignment is different to the actual alignment. An accurate photo-montage should be used to assess this issue.

The proposed digital sign would be located beside the carriageway and elevated above the road level. The sign is located away from the carriageway and above the carriageway so there would be clear definition between the proposed digital sign and the surrounding road network which would not provide misleading information on the roadway alignment.

(d) The advertisement should not distract a driver's attention away from the road environment for an extended length of time. For example:
- **i. The sign should not be located in such a way that the driver's head is required to turn away from the road and the components of the traffic stream in order to view its display and/or message. All drivers should still be able to see the road when viewing the sign, as well as the main components of the traffic stream in peripheral view.**
- **ii. The sign should be oriented in a manner that does not create headlight reflection in the driver's line of sight. As a guideline, angling a sign five degrees away from right angles to the driver's line of sight can minimise headline reflections. On a curved road alignment, this should be checked for the distance measured back from the sign that a car would travel in 2.5 seconds at the design speed.**

The proposed digital sign would be located within the motorists' peripheral view when travelling on Fairford Road in the northbound direction. Motorists would not be required to turn their head when observing the sign and would be able to view the road and sign simultaneously.

The positioning and angle of the sign would not be expected to result in headlight reflection or glare for vehicles on approach to the sign.

4.3.1.3 Proximity to Decision Making Points and Conflict Points

(a) A sign should not be located:

i. **Less than the safe sight distance from an intersection, merge points, exit ramp, traffic control signal or sharp curves.**
ii. **Less than the safe stopping sight distance from a marked foot crossing, pedestrian crossing, pedestrian refuge, cycle crossing, cycleway facility or hazard within the road environment.**

As per Austroads Guide to Road Design Part 4A, the minimum safe stopping distance (SSD) is based on the travel speed and gradient of the road. At this location, the posted speed limit is 70km/h.

For the purpose of this assessment, an operating speed of 70 km/h has been used to calculate the safe stopping sight distance which is the sign posted speed limit on Fairford Road near the proposed sign. Also, it is the speed at which motorists were observed to be driving during the site inspection. According to the Austroads guide, the minimum safe stopping sight distance for a 70km/h speed zone is 92m.

The Austroads guide states that the SSD is measured along the roadway, and it must be available along all traffic lanes at all times. In addition, the signage guidelines state that criteria 3.2.3 a) applies:

> *"to minimise distraction near decision making points and conflict points, and ensure there is sufficient distance for a driver to recognise, react and, if required, stop safely before reaching one of these points".*

Therefore, to comply with this requirement, the sign must not be located within the safe stopping sight distance on the approach to the decision-making point or conflict point.

The proposed digital sign would be located 370m downstream from the diverge point of the off ramp from Fairford Road to Canterbury Road. The sign would be located 500m upstream of the signalised intersection with Fairford Road and Stacey Street. Therefore, the SSD of the nearest decision making point or conflict point would be well beyond the distance to the sign and the proposed location would thereby be compliant with the criteria

iii. **So that it is visible from the stem of a T-intersection.**

The sign would not be visible from the stem of any T-intersections.

(b) The placement of a sign should not distract a driver at a critical time. In particular, signs should not obstruct a driver's view:
i. **Of a road hazard,**
ii. **To an intersection,**
iii. **To a prescribed traffic control device (such as traffic signals, stop or give way signs or warning signs)**
iv. **To an emergency vehicle access point or Type 2 driveways (wider than 6-9 metres) or higher.**

A "critical time" is understood to refer to a point in time when a driver's decision is required implying that a road safety implication could occur if a driver was distracted at this time. The digital sign would be fixed on the east side of Fairford Road. The digital sign would not obstruct a motorist's view of any traffic signals, signage, and other traffic hazards when travelling northbound on Fairford Road.

4.3.1.4 Sign Spacing

(a) Sign spacing should limit driver's view to a single sign at any given time with a distance of no less than 150m between signs in any one corridor. Exemptions for low speed, high pedestrian zones or CBD zones would be assessed by RMS as part of their concurrence role.

The proposed digital sign would not be located within 150m of any large format static or digital advertising signs facing northbound traffic on Fairford Road.

4.3.2 Sign Design and Operation Criteria

4.3.2.1 Advertising Signage and Traffic Control Devices

(a) The advertisement must not distract a driver from, obstruct or reduce the visibility and effectiveness of directional signs, traffic signals, prescribed traffic control devices, regulatory signs or advisory signs or obscure information about the road alignment.

The proposed digital sign is offset from the road, thus would not obstruct or reduce the visibility of the regulatory signage.

(b) The advertisement must not interfere with stopping sight distance for the road's design speed or the effectiveness of a traffic control device. For example:

- **i. Could the advertisement be construed as giving instructions to traffic such as 'Stop', 'Halt' or 'Give Way'?**
- **ii. Does the advertisement imitate a prescribed traffic control device?**
- **iii. If the sign is in the vicinity of traffic lights, does the advertisement use red, amber or green circles, octagons, crosses or triangles or shapes or patterns that may result in the advertisement being mistaken for a traffic signal?**

Details pertaining to the advertisement are not yet known since the project is still within the concept design stage. The sign would not display colours and shapes which could be mistaken for a traffic signal. QMS Media will not post any advertisements that contravene this condition.

Notwithstanding this, it is recommended that the content of the proposed sign be reviewed against Table 5 of the Guidelines to avoid any content that may be construed as imitating a traffic control device, particularly traffic signals.

4.3.2.2 Dwell Time and Transition Time

(a) Each advertisement must be displayed in a completely static manner, without any motion, for the approved dwell time as per criterion (b) below
(b) Dwell times for image display must not be less than:
- **i. 10 seconds for areas where the speed limit is below 80km/h**
- **ii. 25 seconds for areas where the speed limit is 80km/h and over.**

Based on the NSW Guidelines, the minimum dwell time for content displayed on the digital sign would be 10 seconds. The digital sign is proposed to contain text and images, which would be in a static manner without any motion for this dwell time. The transition between content would be almost instantaneous.

(c) Any digital sign that is within 250 metres of a classified road and is visible from a school zone must be switched to a fixed display during school zone hours.

The digital sign is located on a classified road but is not visible from a school zone.

(d) Digital signs must not contain animated or video/movie style advertising or messages of image failure, the default image must be a black screen.

The digital sign is proposed to contain text and images, which would be in a static manner without any motion for this dwell time. The transition between content would be almost instantaneous.

4.3.2.3 Illumination and Reflectance

(a) Luminance levels must comply with the requirements in Table 6 in Transport Corridor Outdoor Advertising and Signage Guidelines
(b) The image displayed on the sign must not otherwise unreasonably dazzle or distract drivers without limitation to their colouring or contain flickering or flashing content.

Section 3.3.3 of the Guidelines details assessment criteria to ensure that illumination and reflectance qualities of the sign do not cause a road safety hazard. It is understood that these criteria would be addressed in a separate specialist report prepared by a qualified consultant.

4.3.2.4 Interaction and Sequencing

(a) The advertisement must not incorporate technology which interacts with in-vehicle electronic devices or mobile devices. This includes interactive technology or technology that enables opt-in direction communication with road users.
(b) Message sequencing designed to make a driver anticipated the next message is prohibited across images presented on a single sign and across a series of signs.

The proposed digital sign would not contain interactive technology or technology that enables opt-in direction communication with motorists. The digital sign would not be designed to make motorists anticipate information.

5 Conclusion

QMS Media is seeking approval to install a digital sign at 2-4 Warren Avenue, Bankstown facing northbound traffic on Fairford Road.

The proposal has been assessed in accordance with the following statutory requirements for digital advertising signs:

- Transport Corridor Outdoor Advertising and Signage Guidelines
- State Environmental Planning Policy (Industry and Employment) 2021.

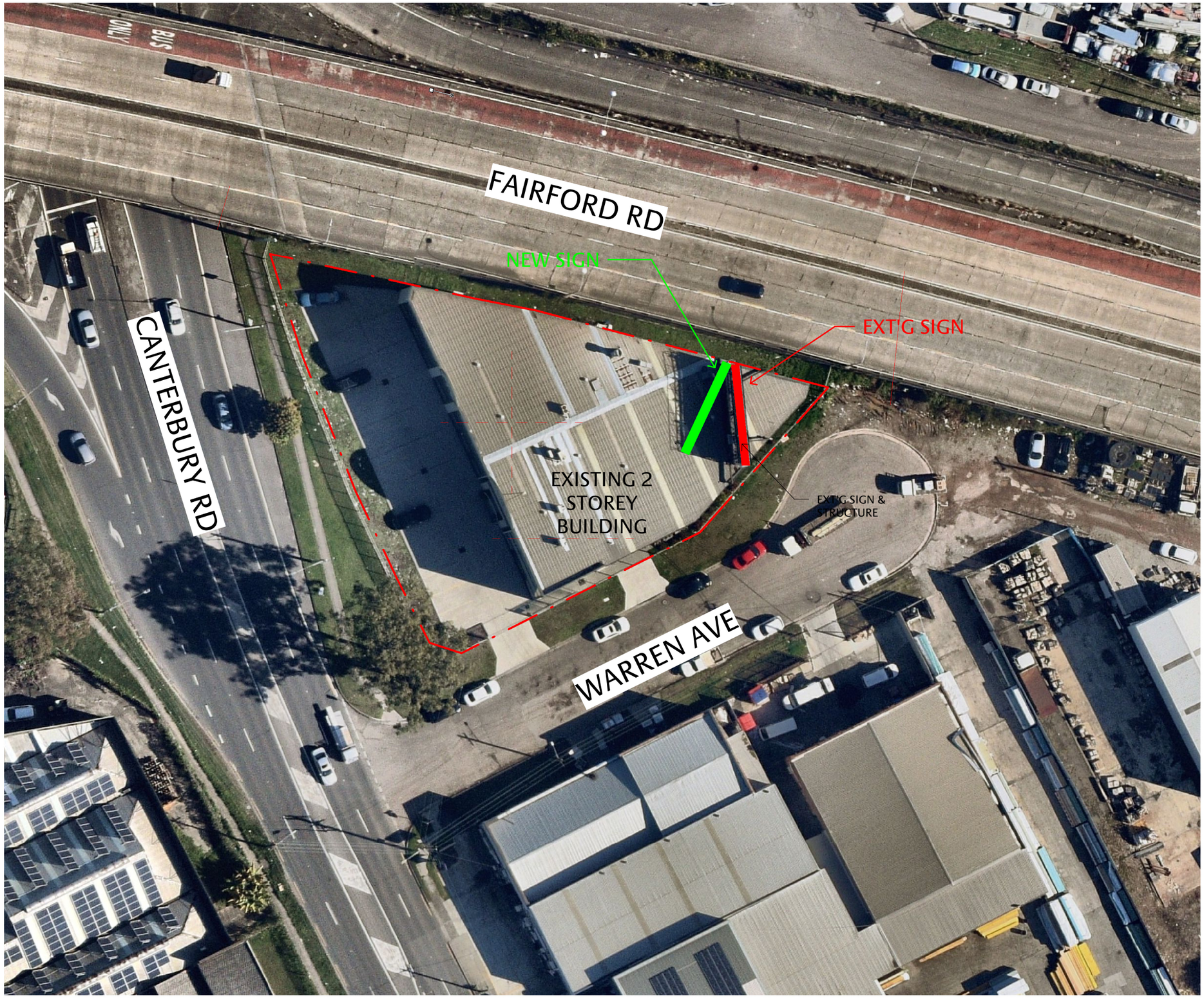
The following findings and conclusions are made from the signage safety assessment:

- The proposed sign will be located on the east side of Fairford Road and would face northbound traffic on Fairford Road.
- Two casualty crashes have occurred over a five-year period between 1 January 2019 and 31 December 2023 within the visible distance of the sign, with only one crash occurring within the legible distance.
- The sign would not be located within the safe stopping distance of any decision making or conflict points.
- The proposed sign would not obstruct or reduce visibility of any traffic control devices, signage, pedestrians or cyclists.
- The proposed sign would not give incorrect information on the road alignment.

Having consideration for the digital signage safety assessment and discussion presented within this report, the analysis demonstrates that the installation of a digital sign on the east side of Fairford Road facing northbound traffic would satisfy the traffic safety criteria, requirements and guidelines in the Industry and Employment SEPP and NSW Guidelines.

Appendix A

Concept Design Plans



DRAWING LIST		
No.	NAME	REV.
01	AERIAL PLAN	
02	EXISTING SITE PLAN	
03	EXISTING ELEVATIONS 1 OF 2	
04	EXISTING ELEVATIONS 2 OF 2	
10	NEW SITE PLAN	
11	NEW ELEVATIONS 1 OF 3	
12	NEW ELEVATIONS 2 OF 3	
13	NEW ELEVATION 3 OF 3	

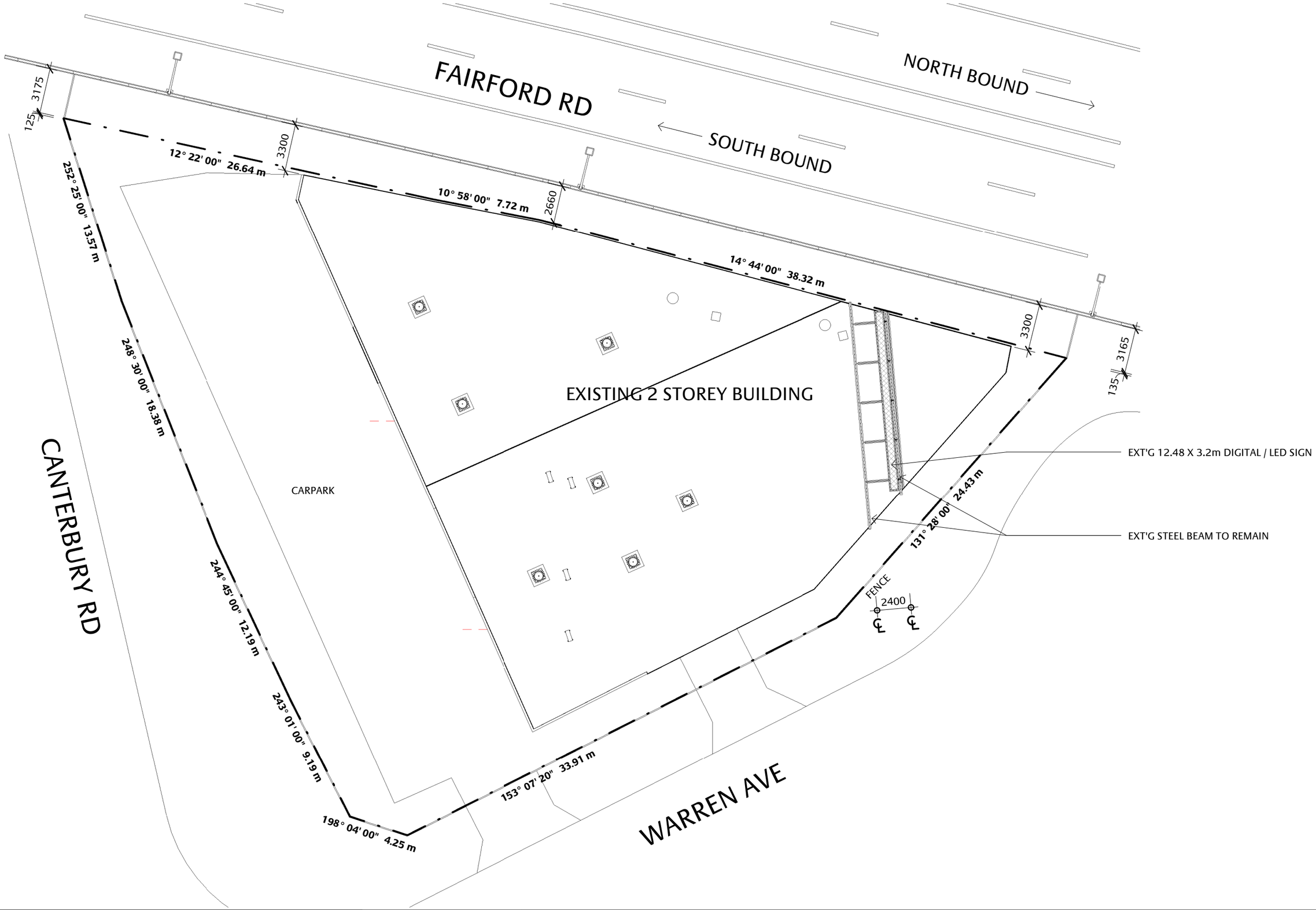
No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
AERIAL PLAN

DRAWN	JOB No.	DATE	SHEET SIZE	SCALE	DRG No.
KAS	2084#2	23/07/24	A3	1 : 500	01

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

23/07/2024 11:59:17 AM



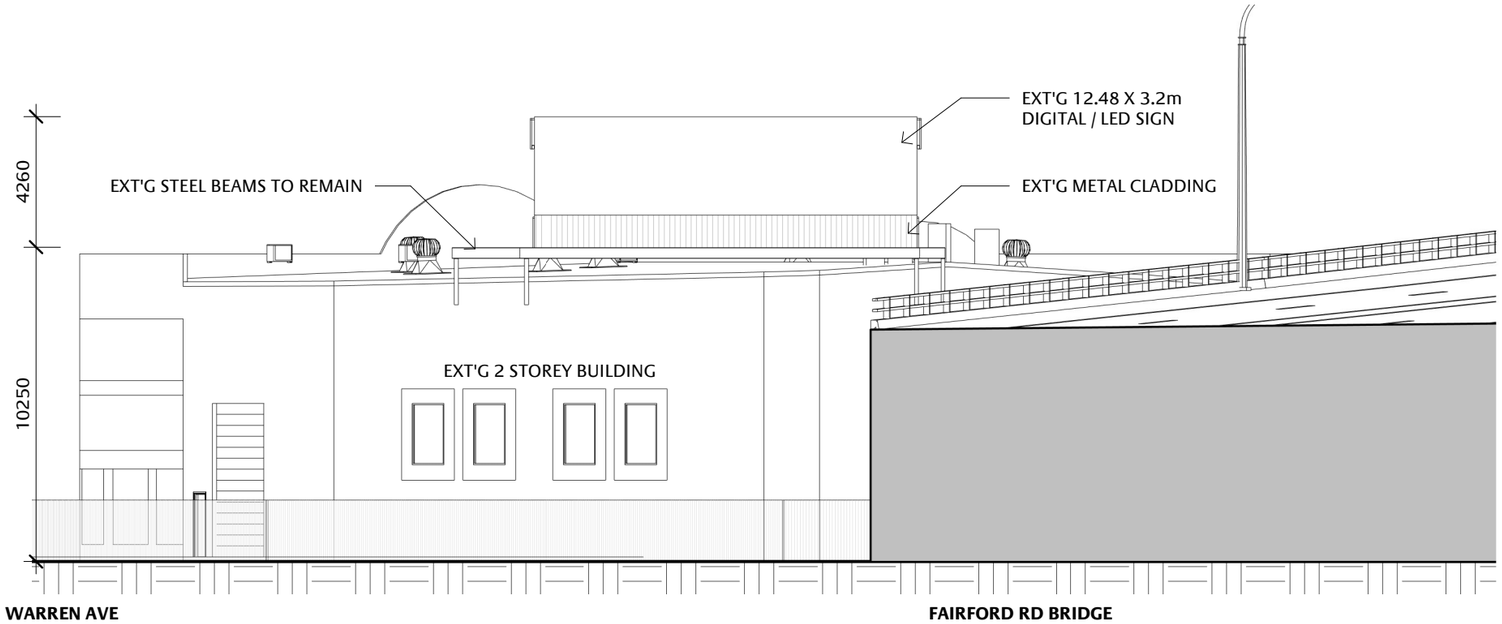
No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
EXISTING SITE PLAN

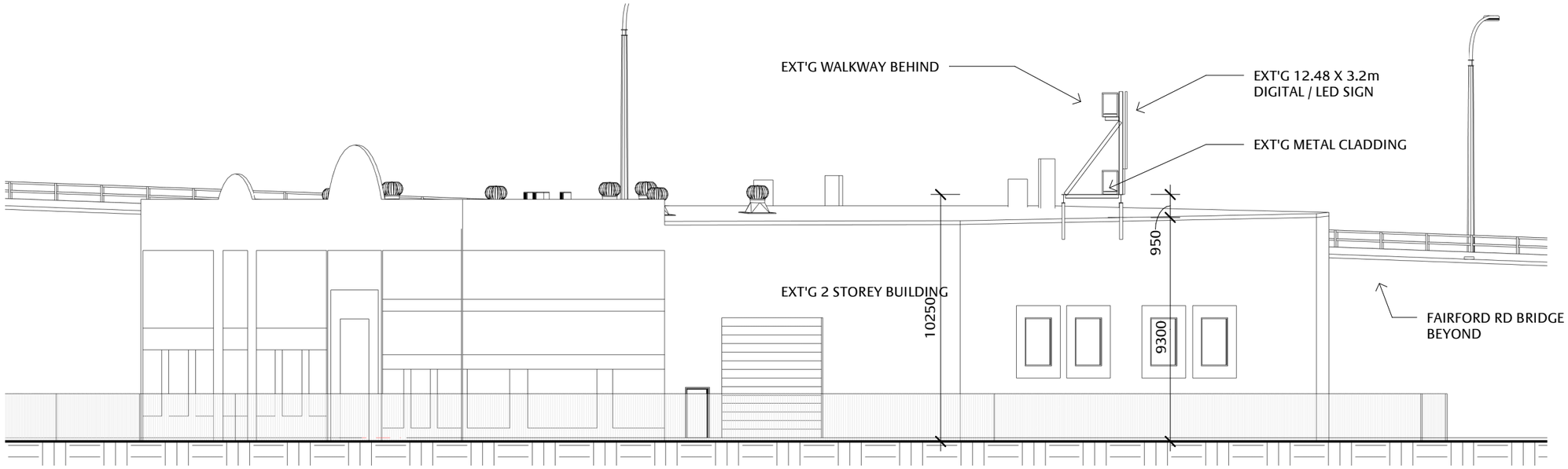
DRAWN	JOB No.	DATE	SHEET SIZE	SCALE	DRG No.
KAS	2084#2	23/07/24	A3	1 : 250	02

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

23/07/2024 11:59:18 AM



EXISTING NORTH ELEVATION
SCALE: 1 : 200



EXISTING EAST ELEVATION
SCALE: 1 : 200

No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
EXISTING ELEVATIONS 1 OF 2

DRAWN	JOB No.	DATE	SHEET SIZE A3	SCALE	DRG No.
KAS	2084#2	23/07/24		1 : 200	03

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

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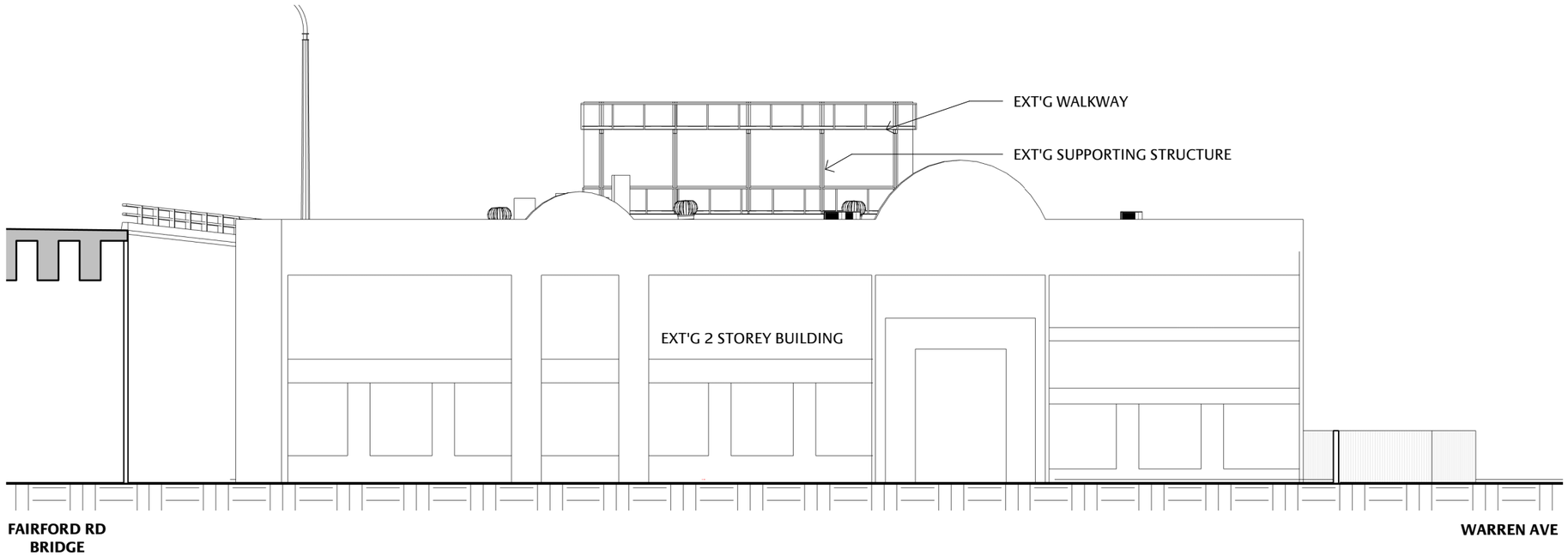
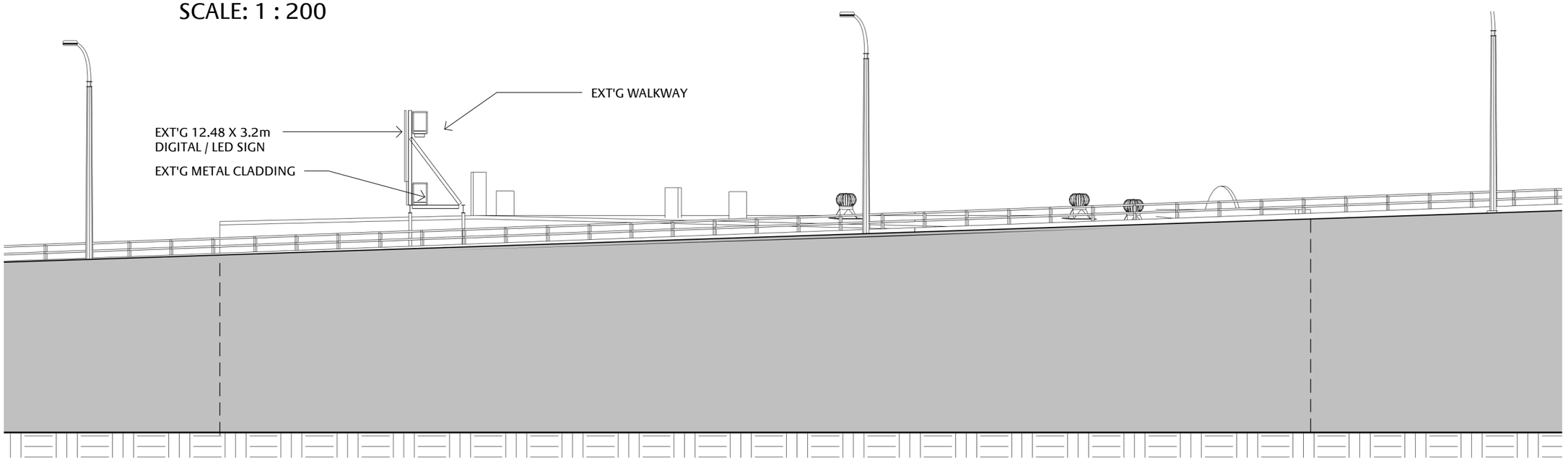


EXISTING SOUTH ELEVATION
SCALE: 1 : 200



EXISTING WEST ELEVATION
SCALE: 1 : 200

No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
EXISTING ELEVATIONS 2 OF 2

DRAWN	JOB No.	DATE	SHEET SIZE A3	SCALE	DRG No.
KAS	2084#2	23/07/24		1 : 200	04

Outdoor Elements
Outdoor Elements Pty Ltd.
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Tel: (03) 9394 111, Fax: (03) 9394 1555

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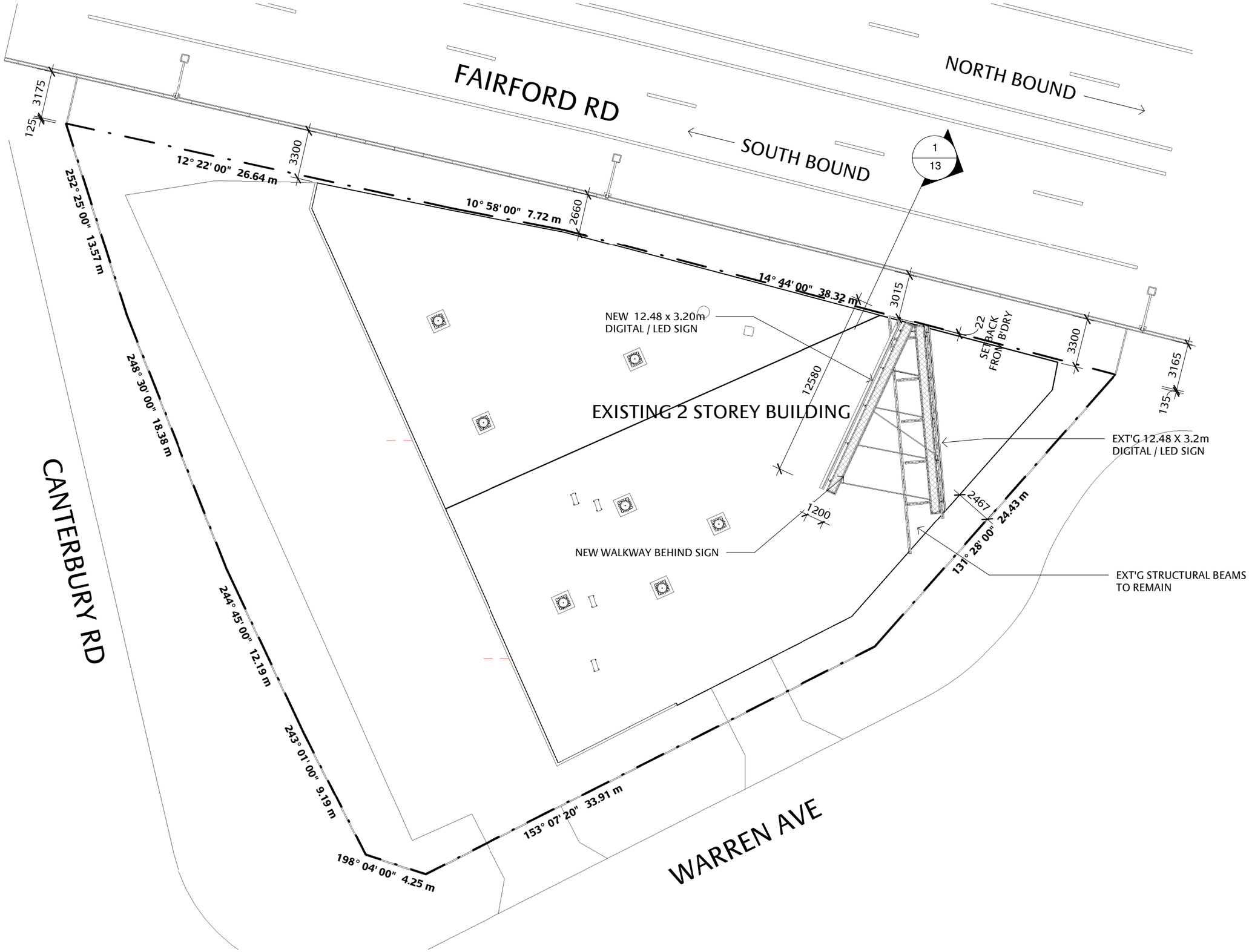

No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
NEW SITE PLAN

DRAWN	JOB No.	DATE	SHEET SIZE A3	SCALE	DRG No.
KAS	2084#2	23/07/24		1 : 250	10

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

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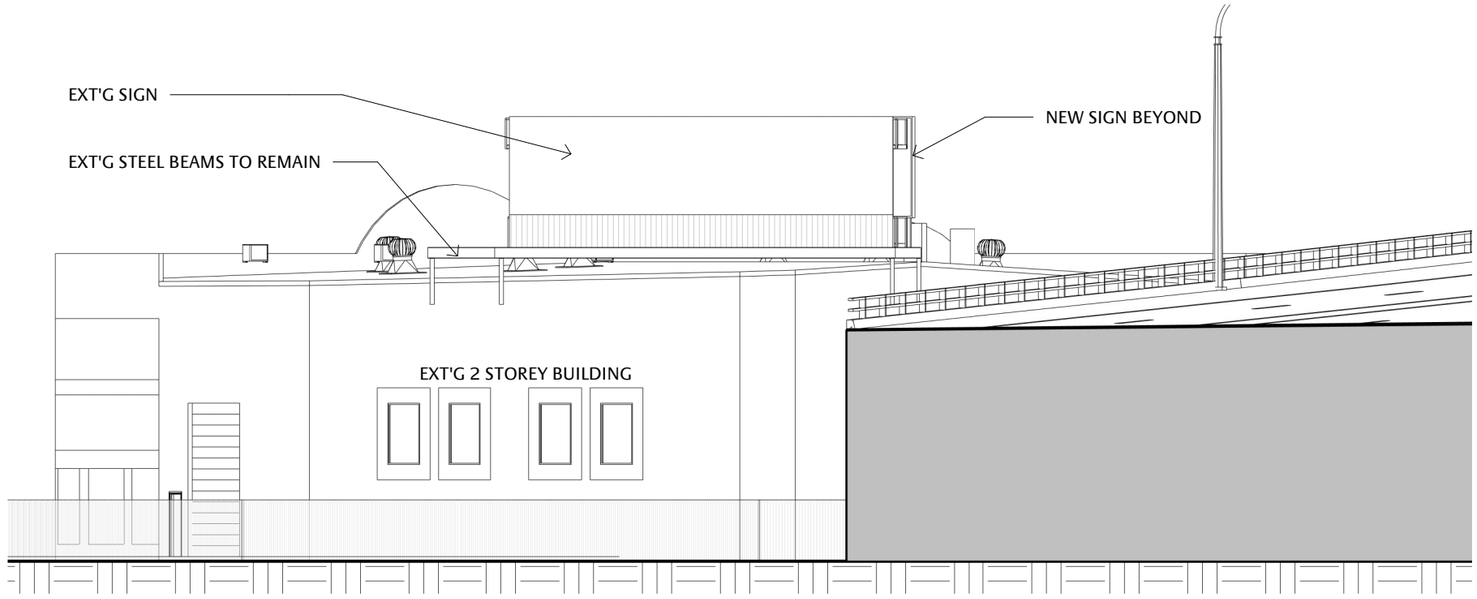
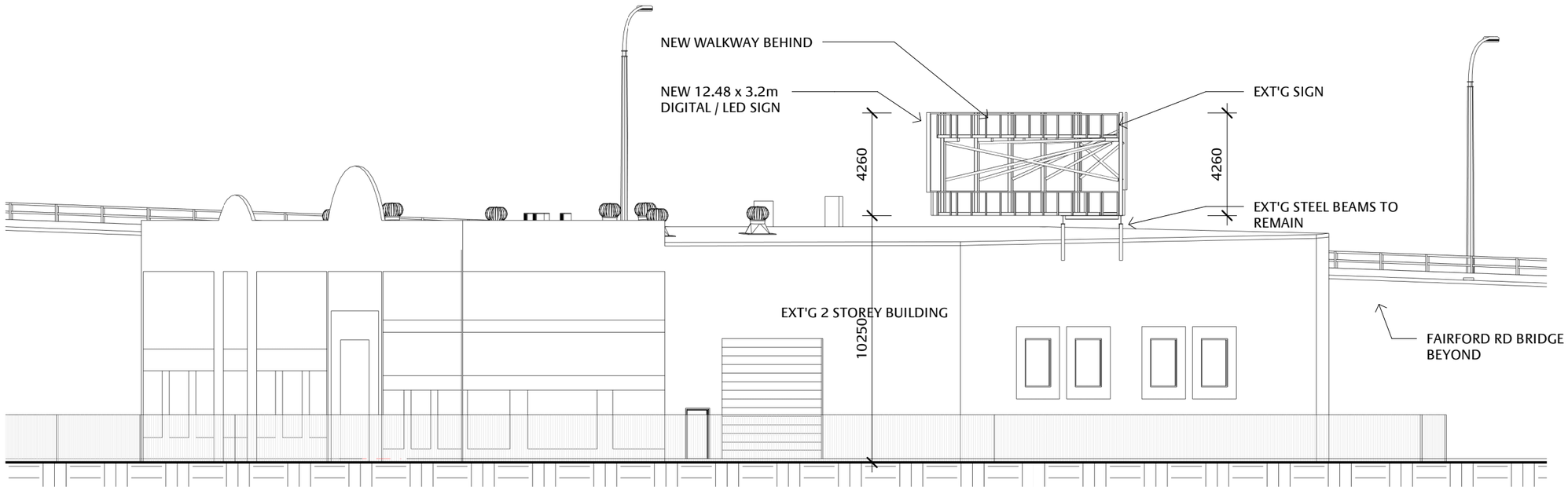


NEW NORTH ELEVATION -#1
SCALE: 1 : 200



NEW EAST ELEVATION -#1
SCALE: 1 : 200

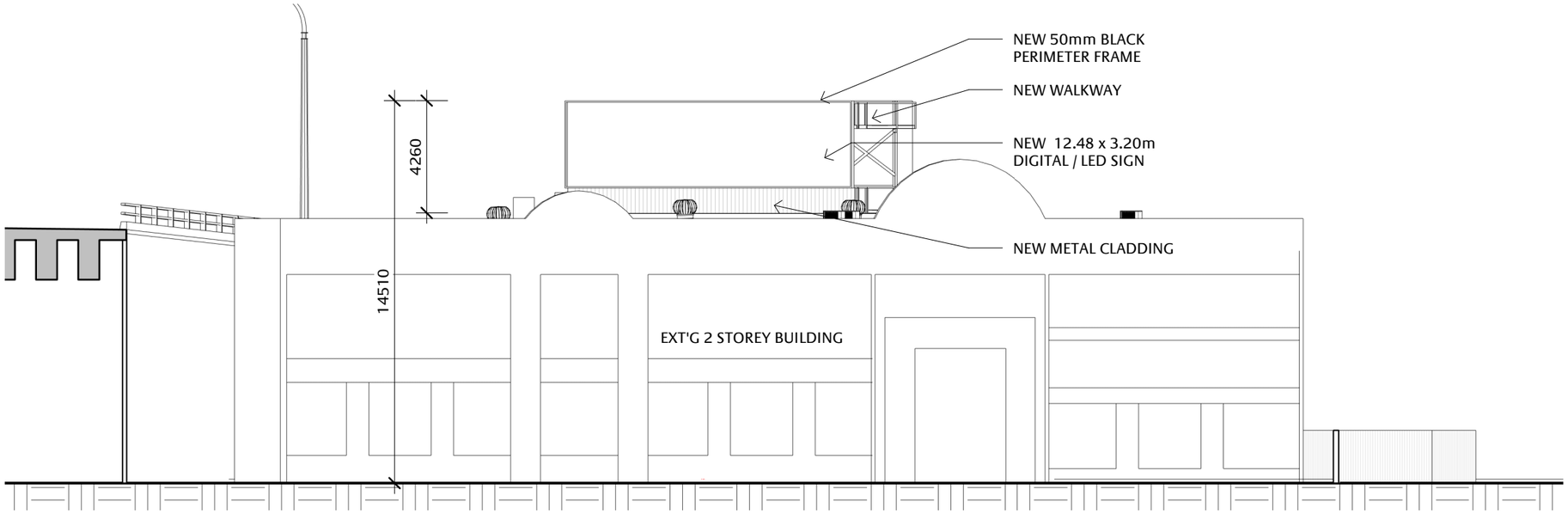
No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
NEW ELEVATIONS 1 OF 3

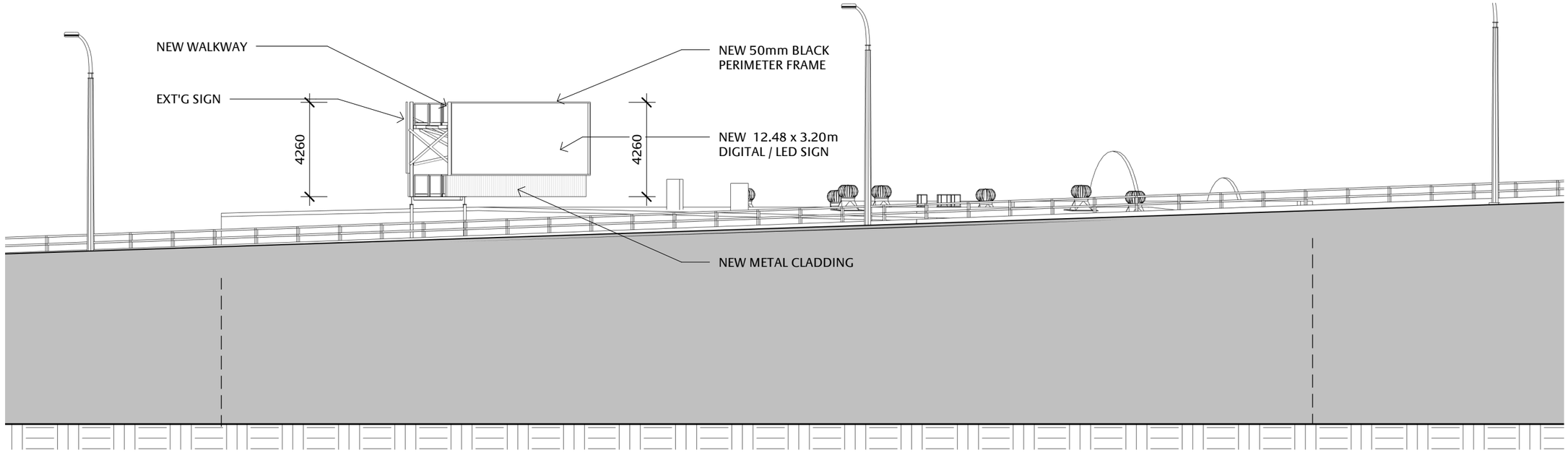
DRAWN	JOB No.	DATE	SHEET SIZE A3	SCALE	DRG No.
KAS	2084#2	23/07/24		1 : 200	11

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030.
Tel: (03) 9394 111, Fax: (03) 9394 1555

23/07/2024 11:59:20 AM



NEW SOUTH ELEVATION -#1
SCALE: 1 : 200



NEW WEST ELEVATION -#1
SCALE: 1 : 200

No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
NEW ELEVATIONS 2 OF 3

DRAWN	JOB No.	DATE	SHEET SIZE A3	SCALE	DRG No.
KAS	2084#2	23/07/24		1 : 200	12

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

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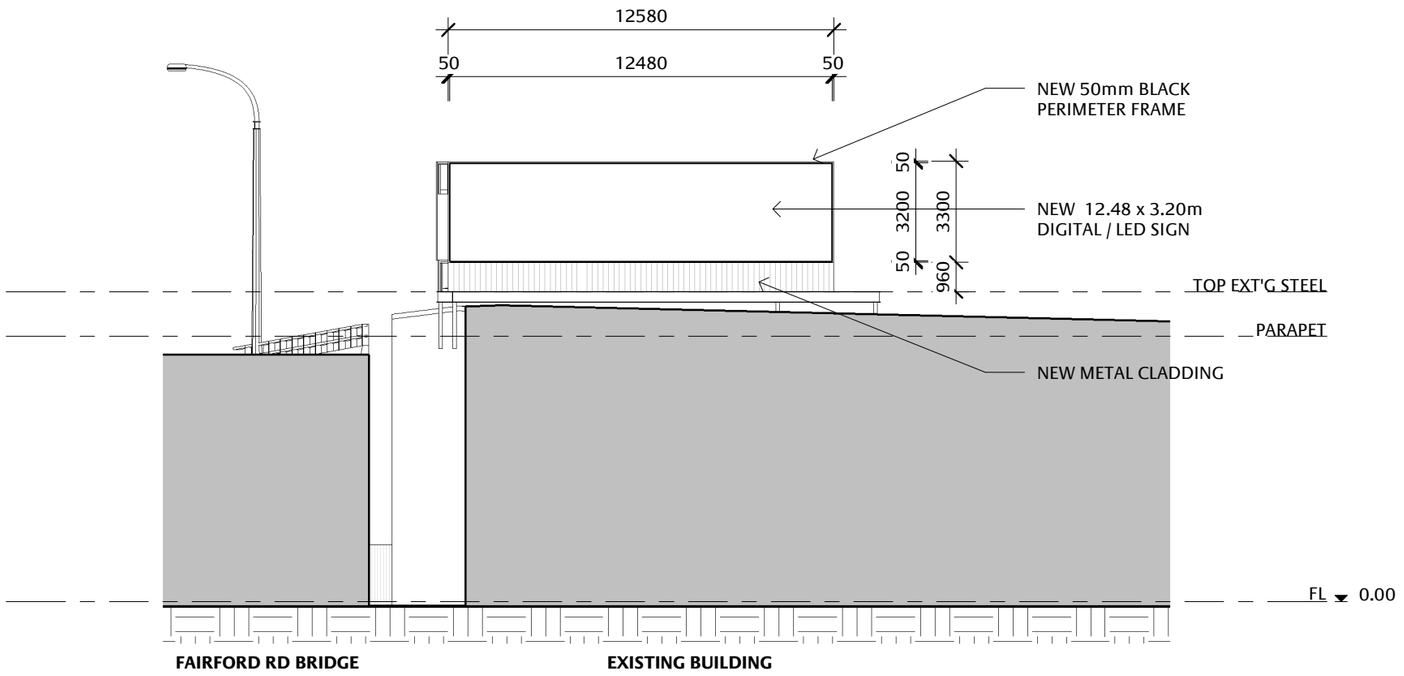

1/10 **SOUTH WEST ELEVATION**
SCALE: 1 : 200

No.	Description	Date

2-4 WARREN ST, BANKSTOWN
NEW SIGN
NEW ELEVATION 3 OF 3

DRAWN	JOB No.	DATE	SHEET SIZE	SCALE	DRG No.
KAS	2084#2	23/07/24	A3	1 : 200	13

Outdoor Elements
Outdoor Elements Pty Ltd.
59 Derrimut Drive, Derrimut, VIC 3030,
Tel: (03) 9394 111, Fax: (03) 9394 1555

23/07/2024 11:59:21 AM

Appendix B

State Environmental Planning Policy (Industry and Employment) – Schedule 5

State Environmental Planning Policy (Industry and Employment) 2021

Current version for 16 December 2022 to date (accessed 4 July 2023 at 10:29)

Schedule 5

Schedule 5 Assessment criteria

sections 3.6, 3.11 and 3.15

1 Character of the area

- Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?
- Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?

2 Special areas

- Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?

3 Views and vistas

- Does the proposal obscure or compromise important views?
- Does the proposal dominate the skyline and reduce the quality of vistas?
- Does the proposal respect the viewing rights of other advertisers?

4 Streetscape, setting or landscape

- Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?
- Does the proposal contribute to the visual interest of the streetscape, setting or landscape?
- Does the proposal reduce clutter by rationalising and simplifying existing advertising?
- Does the proposal screen unsightliness?
- Does the proposal protrude above buildings, structures or tree canopies in the area or locality?
- Does the proposal require ongoing vegetation management?

5 Site and building

- Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?
- Does the proposal respect important features of the site or building, or both?

- Does the proposal show innovation and imagination in its relationship to the site or building, or both?

6 Associated devices and logos with advertisements and advertising structures

- Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?

7 Illumination

- Would illumination result in unacceptable glare?
- Would illumination affect safety for pedestrians, vehicles or aircraft?
- Would illumination detract from the amenity of any residence or other form of accommodation?
- Can the intensity of the illumination be adjusted, if necessary?
- Is the illumination subject to a curfew?

8 Safety

- Would the proposal reduce the safety for any public road?
- Would the proposal reduce the safety for pedestrians or bicyclists?
- Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?

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