

**Appendix 2:**  
**A3 versions of Additional Visual Simulations (conforming to NZILA BPG 10.2 guidance)**



VIEW FROM SHARED PATHWAY, HAGLEY AVENUE AT 50M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM SHARED PATHWAY, HAGLEY AVENUE AT 100M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM SHARED PATHWAY, HAGLEY AVENUE AT 200M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM SHARED PATHWAY, MOORHOUSE AVENUE AT 50M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM SHARED PATHWAY, MOORHOUSE AVENUE AT 100M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM SHARED PATHWAY, MOORHOUSE AVENUE AT 200M, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



VIEW FROM INFRONT OF APARTMENTS AT 420 HAGLEY AVENUE, 267x400mm IMAGE SIZE @ A3 (315mm READING DISTANCE)  
CANON EOS 50D 18mm LENS (28mm FULL FRAME EQUIVALENT)



**Customer Services**  
P. 03 353 9007 or 0800 324 636

PO Box 345  
Christchurch 8140

P. 03 365 3828  
F. 03 365 3194  
E. [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz)

[www.ecan.govt.nz](http://www.ecan.govt.nz)

Dear Sir/Madam

Thank you for submitting your property enquiry in regards to our Listed Land Use Register (LLUR) which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The LLUR statement provided indicates the location of the land parcel(s) you enquired about and provides information regarding any LLUR sites within a radius specified in the statement of this land.

Please note that if a property is not currently entered on the LLUR, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The LLUR is not complete, and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The LLUR only contains information held by Environment Canterbury in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the LLUR. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact and Environment Canterbury Contaminated Sites Officer if you wish to discuss the contents of the LLUR statement, or if you require additional information. For any other information regarding this land please contact Environment Canterbury Customer Services.

Yours sincerely

**Contaminated Sites Team**

# Property Statement from the Listed Land Use Register

Visit [www.ecan.govt.nz/HAIL](http://www.ecan.govt.nz/HAIL) for more information about land uses.

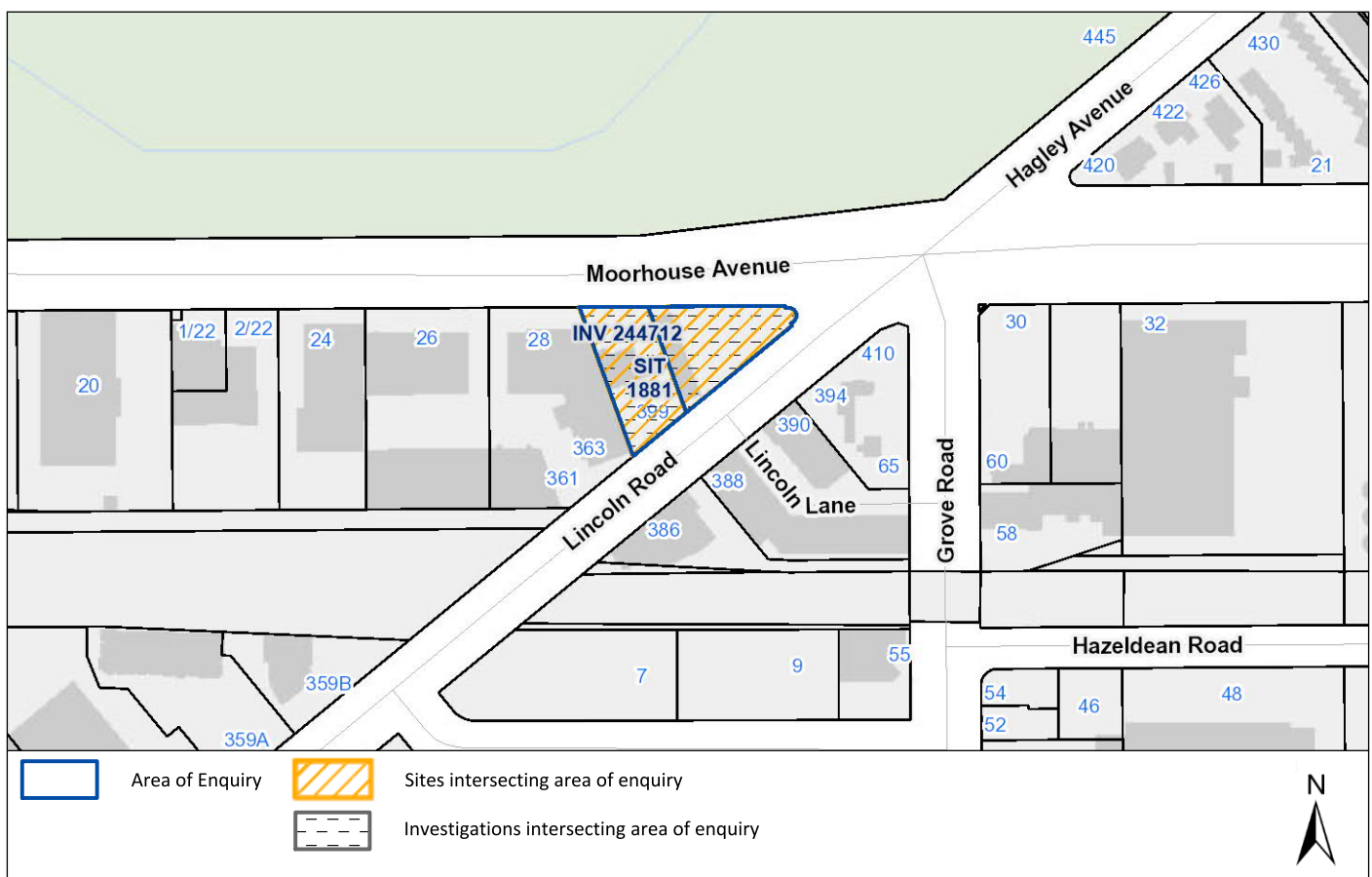
Customer Services  
P. 03 353 9007 or 0800 324 636

PO Box 345  
Christchurch 8140

P. 03 365 3828  
F. 03 365 3194  
E. [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz)

[www.ecan.govt.nz](http://www.ecan.govt.nz)

<b>Date:</b>	12 August 2020	
<b>Land Parcels:</b>	Lot 1 DP 1406 Part RS 9	Valuation No(s): 2212515500 Valuation No(s): 2212515500



*The information presented in this map is specific to the property you have selected. Information on nearby properties may not be shown on this map, even if the property is visible.*

## Summary of sites:

Site ID	Site Name	Location	HAIL Activity(s)	Category
1881	Mobil Hagley South	399 Lincoln Road (Cnr. Moorhouse Ave. & Lincoln Rd.,) Christchurch	F7 - Service stations; A18 - Wood treatment or preservation and bulk storage of treated timber;	Contaminated - Industrial/Commercial

*Please note that the above table represents a summary of sites and HAILS intersecting the area of enquiry only.*

## Information held about the sites on the Listed Land Use Register

### Site 1881: Mobil Hagley South (Intersects enquiry area.)

<b>Site Address:</b>	399 Lincoln Road (Cnr. Moorhouse Ave. & Lincoln Rd.,) Christchurch
<b>Legal Description(s):</b>	Pt RS 9; Lot 1 DP 1406

<b>Site Category:</b>	Contaminated - Industrial/Commercial
<b>Definition:</b>	The site has been investigated. Results show that the land has a hazardous substance in or on it that has, or is reasonably likely to have, significant adverse effects on human health and/or the environment.

Land Uses (from HAIL):	Period From	Period To	HAIL land use
	1988	present	Service stations including retail or commercial refuelling facilities
	Pre 1941	Pre 1984	Wood treatment or preservation including the commercial use of anti-sapstain chemicals during milling, or bulk storage of treated timber outside

#### Notes:

**1 Nov 1999** 1993 DG Licence: 4 underground storage tanks (USTs); 3 containing class 3a product with a combined capacity of 120,000 L and 1 containing class 3c product with a capacity of 20,000 L.  
1999 CRC Information: 1 land use consent (contaminant storage).

#### Investigations:

**31 Oct 2001** **INV 70672: Site Inspection for the Removal of Three Underground Storage Tanks at Mobil South Hagley, Christchurch (Detailed Site Investigation)**  
PDP

#### Summary of investigation(s):

The site is Mobil operated and situated at 399 Lincoln Road, Christchurch at the intersection of Lincoln Road and Moorhouse Avenue.

Site history: A review of historical aerial images of the site show it was used for commercial/industrial purposes from before 1941. In the 1941 image, commercial buildings are in the northeast and northwest corners of the property with an access road and storage yards occupying most of the property. There is a rail siding across Lincoln Road from the site. These conditions persist through to 1984 at which time variations including the addition and removal of smaller buildings and storage of a variety of materials (including what appears to be timber) are noted. Between 1984 and 1994 the site was converted to a service station, shop and car wash, which continued up until 2017. The Christchurch City Council database shows locations for 7 former and current underground storage tanks. This information compared with the PDP 2001 report suggest that 6 USTs in total were removed from the site and 3 replaced indicating a total of 4 USTs are currently present on the site (1 diesel and 3 petrol).

In 2001, Fuelquip Services discovered a leaking 96 octane motor spirits (petrol) fuel line attributed to a fault section of pipework below the bowser. This was followed by the removal of 3 underground storage tanks, pipelines, bowsers and associated hydrocarbon-impacted soil in 2001. The tanks were replaced but residual contamination remained present near the pipeline and bowser. Based on a photo record of site works and tank decommissioning provided by Mobil in December 2017, the tanks installed in 2001 were constructed of fibreglass. Those tanks were removed in late November 2017.

#### Site Inspection for the Removal of Three Underground Storage Tanks at Mobil South Hagley, Christchurch (PDP, 2001)

Investigation objective: To describe the extent of petroleum residues after removal of three underground storage tanks and their associated pipelines and bowsers.

Results: The samples of the in-situ soil at the edges of the pits for the former underground storage tanks indicated soil quality below the Tier 1 guideline values. Tank pit and pipeline backfill had been impacted by petroleum hydrocarbons (approx. 112 m<sup>3</sup> of soil was removed and transported to the Texco remediation facility). Residual soil from the pipeline from Bowser 3, and soil beneath Bowser 3 contained concentrations of benzene and other hydrocarbons above the construction worker and inhalation pathways. The soil beneath Bowser 3 was not remediated or delineated. The PDP 2001 report does not address the potential for product to have moved along the bedding planes of utilities which are shown on Figure 2: Soil Sample Location Plan, including power, ducts, water and stormwater. The report indicates that observation wells were checked, and no product was detected. The locations of these observation wells are not on shown on the figures provided in the report nor on the Environment Canterbury database. No investigation of the shallow groundwater describing the groundwater quality or direction of groundwater flow is included in the report, which is a remarkable omission since concentrations of BTEX exceed criteria for protection of groundwater quality by orders of magnitude.

Conclusions: The proposed category is Contaminated – Commercial/Industrial

Justification for proposed category: Soil remaining in-situ at the site (at approximately 0.5 metres below ground level) considerably exceeding MfE (2011) Tier 1 guideline values for a commercial/industrial site and for protection of groundwater quality.

**1 Sep 2019** **INV 244712: 399 Lincoln Road, Addington - Environmental Site Assessment (Detailed Site Investigation)**

**Summary of investigation(s):**

Environment Canterbury has received a Detailed Site Investigation report that includes all or part of the property you have selected.

A DSI seeks to identify the type, extent and level of contamination (if any) in an area. Soil, soil-gas or water samples will have been collected and analysed.

This investigation has not been summarised.

---

**Information held about other investigations on the Listed Land Use Register**

**For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ261215.**

**Disclaimer:** *The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).*

*The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.*

*Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.*

# Listed Land Use Register

What you need to know



Everything is connected

## What is the Listed Land Use Register (LLUR)?

The LLUR is a database that Environment Canterbury uses to manage information about land that is, or has been, associated with the use, storage or disposal of hazardous substances.

## Why do we need the LLUR?

Some activities and industries are hazardous and can potentially contaminate land or water. We need the LLUR to help us manage information about land which could pose a risk to your health and the environment because of its current or former land use.

Section 30 of the Resource Management Act (RMA, 1991) requires Environment Canterbury to investigate, identify and monitor contaminated land. To do this we follow national guidelines and use the LLUR to help us manage the information.

The information we collect also helps your local district or city council to fulfil its functions under the RMA. One of these is implementing the National Environmental Standard (NES) for Assessing and Managing Contaminants in Soil, which came into effect on 1 January 2012.

For information on the NES, contact your city or district council.

## How does Environment Canterbury identify sites to be included on the LLUR?

We identify sites to be included on the LLUR based on a list of land uses produced by the Ministry for the Environment (MfE). This is called the Hazardous Activities and Industries List (HAIL)<sup>1</sup>. The HAIL has 53 different activities, and includes land uses such as fuel storage sites, orchards, timber treatment yards, landfills, sheep dips and any other activities where hazardous substances could cause land and water contamination.

### We have two main ways of identifying HAIL sites:

- We are actively identifying sites in each district using historic records and aerial photographs. This project started in 2008 and is ongoing.
- We also receive information from other sources, such as environmental site investigation reports submitted to us as a requirement of the Regional Plan, and in resource consent applications.

<sup>1</sup> The Hazardous Activities and Industries List (HAIL) can be downloaded from MfE's website [www.mfe.govt.nz](http://www.mfe.govt.nz), keyword search HAIL

## How does Environment Canterbury classify sites on the LLUR?

Where we have identified a HAIL land use, we review all the available information, which may include investigation reports if we have them. We then assign the site a category on the LLUR. The category is intended to best describe what we know about the land use and potential contamination at the site and is signed off by a senior staff member.

Please refer to the Site Categories and Definitions factsheet for further information.

## What does Environment Canterbury do with the information on the LLUR?

The LLUR is available online at [www.llur.ecan.govt.nz](http://www.llur.ecan.govt.nz). We mainly receive enquiries from potential property buyers and environmental consultants or engineers working on sites. An inquirer would typically receive a summary of any information we hold, including the category assigned to the site and a list of any investigation reports.

We may also use the information to prioritise sites for further investigation, remediation and management, to aid with planning, and to help assess resource consent applications. These are some of our other responsibilities under the RMA.

**If you are conducting an environmental investigation or removing an underground storage tank at your property, you will need to comply with the rules in the Regional Plan and send us a copy of the report. This means we can keep our records accurate and up-to-date, and we can assign your property an appropriate category on the LLUR. To find out more, visit [www.ecan.govt.nz/HAIL](http://www.ecan.govt.nz/HAIL).**



### My land is on the LLUR – what should I do now?

**IMPORTANT!** Just because your property has a land use that is deemed hazardous or is on the LLUR, it doesn't necessarily mean it's contaminated. The only way to know if land is contaminated is by carrying out a detailed site investigation, which involves collecting and testing soil samples.

You do not need to do anything if your land is on the LLUR and you have no plans to alter it in any way. It is important that you let a tenant or buyer know your land is on the Listed Land Use Register if you intend to rent or sell your property. If you are not sure what you need to tell the other party, you should seek legal advice.

You may choose to have your property further investigated for your own peace of mind, or because you want to do one of the activities covered by the National Environmental Standard for Assessing and Managing Contaminants in Soil. Your district or city council will provide further information.

If you wish to engage a suitably qualified experienced practitioner to undertake a detailed site investigation, there are criteria for choosing a practitioner on [www.ecan.govt.nz/HAIL](http://www.ecan.govt.nz/HAIL).

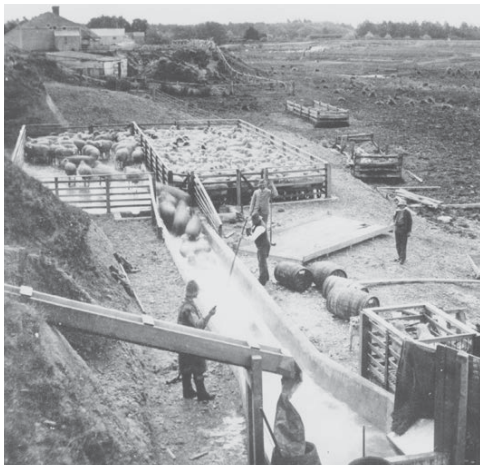


### I think my site category is incorrect – how can I change it?

If you have an environmental investigation undertaken at your site, you must send us the report and we will review the LLUR category based on the information you provide. Similarly, if you have information that clearly shows your site has not been associated with HAIL activities (eg. a preliminary site investigation), or if other HAIL activities have occurred which we have not listed, we need to know about it so that our records are accurate.

If we have incorrectly identified that a HAIL activity has occurred at a site, it will not be removed from the LLUR but categorised as Verified Non-HAIL. This helps us to ensure that the same site is not re-identified in the future.

**IMPORTANT!**  
The LLUR is an online database which we are continually updating. A property may not currently be registered on the LLUR, but this does not necessarily mean that it hasn't had a HAIL use in the past.



Sheep dipping (ABOVE) and gas works (TOP) are among the former land uses that have been identified as potentially hazardous. (Photo above by Wheeler & Son in 1987, courtesy of Canterbury Museum.)

## Contact us

Property owners have the right to look at all the information Environment Canterbury holds about their properties.

It is free to check the information on the LLUR, online at [www.llur.ecan.govt.nz](http://www.llur.ecan.govt.nz).

If you don't have access to the internet, you can enquire about a specific site by phoning us on (03) 353 9007 or toll free on 0800 EC INFO (32 4636) during business hours.

### Contact Environment Canterbury:

Email: [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz)

### Phone:

Calling from Christchurch: (03) 353 9007

Calling from any other area: 0800 EC INFO (32 4636)



Everything is connected

Promoting quality of life through balanced resource management.

[www.ecan.govt.nz](http://www.ecan.govt.nz)

E13/101

# Listed Land Use Register

## Site categories and definitions

When Environment Canterbury identifies a Hazardous Activities and Industries List (HAIL) land use, we review the available information and assign the site a category on the Listed Land Use Register. The category is intended to best describe what we know about the land use.

If a site is categorised as **Unverified** it means it has been reported or identified as one that appears on the HAIL, but the land use has not been confirmed with the property owner.

**If the land use has been confirmed but analytical information from the collection of samples is not available, and the presence or absence of contamination has therefore not been determined, the site is registered as:**

### **Not investigated:**

- A site whose past or present use has been reported and verified as one that appears on the HAIL.
- The site has not been investigated, which might typically include sampling and analysis of site soil, water and/or ambient air, and assessment of the associated analytical data.
- There is insufficient information to characterise any risks to human health or the environment from those activities undertaken on the site. Contamination may have occurred, but should not be assumed to have occurred.

**If analytical information from the collection of samples is available, the site can be registered in one of six ways:**

### **At or below background concentrations:**

The site has been investigated or remediated. The investigation or post remediation validation results confirm there are no hazardous substances above local background concentrations other than those that occur naturally in the area. The investigation or validation sampling has been sufficiently detailed to characterise the site.

### **Below guideline values for:**

The site has been investigated. Results show that there are hazardous substances present at the site but indicate that any adverse effects or risks to people and/or the environment are considered to be so low as to be acceptable. The site may have been remediated to reduce contamination to this level, and samples taken after remediation confirm this.

### **Managed for:**

The site has been investigated. Results show that there are hazardous substances present at the site in concentrations that have the potential to cause adverse effects or risks to people and/or the environment. However, those risks are considered managed because:

- the nature of the use of the site prevents human and/or ecological exposure to the risks; and/or
- the land has been altered in some way and/or restrictions have been placed on the way it is used which prevent human and/or ecological exposure to the risks.

### **Partially investigated:**

The site has been partially investigated. Results:

- demonstrate there are hazardous substances present at the site; however, there is insufficient information to quantify any adverse effects or risks to people or the environment; or
- do not adequately verify the presence or absence of contamination associated with all HAIL activities that are and/or have been undertaken on the site.

### **Significant adverse environmental effects:**

The site has been investigated. Results show that sediment, groundwater or surface water contains hazardous substances that:

- have significant adverse effects on the environment; or
- are reasonably likely to have significant adverse effects on the environment.

### **Contaminated:**

The site has been investigated. Results show that the land has a hazardous substance in or on it that:

- has significant adverse effects on human health and/or the environment; and/or
- is reasonably likely to have significant adverse effects on human health and/or the environment.

**If a site has been included incorrectly on the Listed Land Use Register as having a HAIL, it will not be removed but will be registered as:**

### **Verified non-HAIL:**

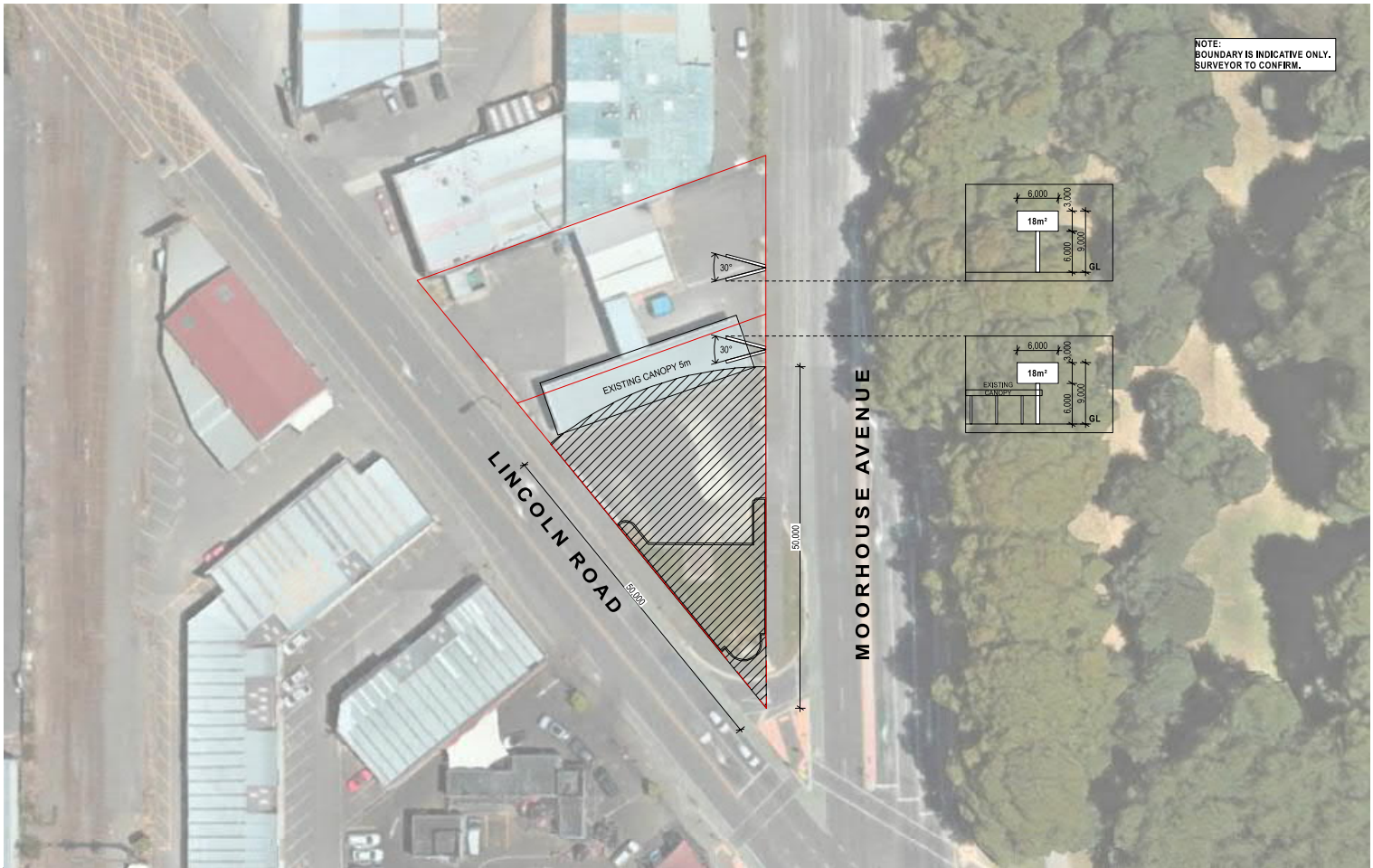
Information shows that this site has never been associated with any of the specific activities or industries on the HAIL.

Please contact Environment  
Canterbury for further information:

(03) 353 9007 or toll free  
on 0800 EC INFO (32 4636)  
email [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz)



NOTE:  
BOUNDARY IS INDICATIVE ONLY.  
SURVEYOR TO CONFIRM.



BALDASSO CORTESE P/L  
P.O. BOX 771 400 000 CTR  
LEVEL 1, 258 DUNHAM STREET NTH  
CBD, CHRISTCHURCH  
NEW ZEALAND 8013  
(0) 3 373 575 584  
WWW.BCNIJETS.CO

**BALDASSO CORTESE NOORDANUS**

**WORK IN PROGRESS**

**DISCLAIMER**  
THIS PLAN IS A PRELIMINARY DESIGN AND SHOULD NOT BE USED FOR CONSTRUCTION OR AS A BASIS FOR ANY OTHER DESIGN OR CONTRACT. THE DESIGNER ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE, INCLUDING CONSEQUENTIAL DAMAGES, ARISING FROM THE USE OF THIS PLAN. THE DESIGNER'S LIABILITY IS LIMITED TO THE DESIGN SERVICES PROVIDED AND DOES NOT EXTEND TO ANY OTHER SERVICES OR PRODUCTS. THE DESIGNER'S LIABILITY IS LIMITED TO THE DESIGN SERVICES PROVIDED AND DOES NOT EXTEND TO ANY OTHER SERVICES OR PRODUCTS.



**PROJECT TITLE**  
LUMO DIGITAL BILLBOARD  
399 LINCOLN ROAD, ADDINGTON  
CHRISTCHURCH

**CLIENT**  
LUMO DIGITAL

**DRAWING TITLE**  
BASELINE SITE PLAN  
MOORHOUSE

**FILE NO**  
P10001-PROJECTS-20200000 - LUMO Digital 399 Lincoln Road CDW13  
P10001-PROJECTS-20200000 - LUMO Digital 399 Lincoln Road CDW13

NORTH	DATE	PROJECT NO	DRAWING NO	REVISION
	27/02/2020	20190009	A.1.05	-
<b>SCALE</b>	1:500@A3			

NOTE:  
BOUNDARY IS INDICATIVE ONLY.  
SURVEYOR TO CONFIRM.



BALDASSO CORTESE P/L  
P.O. BOX 71 440 800 CHR  
LEVEL 1, 258 DUNHAM STREET 4TH  
CRD, CHRISTCHURCH  
NEW ZEALAND 8013  
TEL: +64 3 379 3834  
WWW.BCNI.CO.NZ

**WORK IN PROGRESS**

**DISCLAIMER**  
THIS DRAWING IS THE PROPERTY OF BALDASSO CORTESE P/L AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF BALDASSO CORTESE P/L. THIS DRAWING IS PROVIDED AS A SERVICE TO THE CLIENT AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE CLIENT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITIES. BALDASSO CORTESE P/L ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE, INCLUDING CONSEQUENTIAL DAMAGES, ARISING FROM THE USE OF THIS DRAWING. THE CLIENT IS ADVISED THAT THIS DRAWING IS NOT A CONTRACT AND IS SUBJECT TO THE TERMS AND CONDITIONS OF BALDASSO CORTESE P/L'S STANDARD CONDITIONS OF SERVICE.



**PROJECT TITLE**  
LUMO DIGITAL BILLBOARD  
399 LINCOLN ROAD, ADDINGTON  
CHRISTCHURCH

**CLIENT**  
LUMO DIGITAL

**DRAWING TITLE**  
BASELINE SITE PLAN LINCOLN

**FILE NO**  
P10001-PROJ-0275-20200002 - LUMO Digital 399 Lincoln Road-01W13  
P10001-PROJ-0275-20200002 - LUMO Digital 399 Lincoln Road-01W13

NORTH	DATE	PROJECT NO	DRAWING NO	REVISION
	27/02/2020	201900009	A.1.06	-

**SCALE**  
1:500@A3











---

To: John Scheele  
RMG

From: Chris Rossiter  
Christchurch NZ Office

Date: August 3, 2020

---

**Reference: Lincoln Road Billboard – CCC RFI**

Christchurch City Council (CCC) has requested some further information in relation to the proposed digital billboard at 399 Lincoln Road. We have reviewed the request and provide the further information below in order to respond to the queries.

## **TRUCK DRIVER SIGHTLINES**

The attached drawing set has extended to include a drawing that shows the requested sightlines for the typical eye height of a truck driver, 2.4m. With the higher eye height compared with car drivers, the signal aspects at pole 6 and pole 7 will appear at a similar height to the upper parts of the billboard as vehicles approach the limit line. Since this figure does not show the lateral positions of the poles with respect to the billboard, additional analysis has been undertaken to investigate how the projected position of the signal aspects for car drivers and truck drivers would change with respect to the billboard as vehicles travel through the decision zone.

Figures 1 to 6 show how the projected position of the red and green aspects for poles 6, 7 and 10 will change with respect to billboard as drivers traverse the decision zone. In each case, the lower right of the projected lines corresponds with the entry point to the decision zone.

For Pole 6, the projection indicates that the signal aspects will be clear of the billboard at all times from the position of a car driver. For a truck driver, the projected position of the aspect will track across the corner of the billboard. However, given that the surrounding backing board is black, the visibility of the aspect is unlikely to be confused with the content of the billboard.

Visibility to Signal Pole 7 is largely obstructed by signal pole 6 until vehicles are approaching the end of the decision zone. The analysis of the projected positions with respect to the billboard indicate that the red aspect will always be visible above the billboard even for truck drivers. While the green aspect will also appear above the billboard to car drivers, the projected position will track across the upper corner of the billboard from a truck driver position. As with Pole 6, since the surrounding backing board is black, the visibility of the aspect is unlikely to be confused with the content of the billboard.

There are no conflicts with pole 10 at any point as vehicles traverse the decision zone.

The decision zone is approximately 30m long and would take a vehicle about two seconds to cross. The probability that the billboard image will change over this time will depend upon the minimum display duration that is adopted with longer durations reducing the probability of a change occurring as vehicles traverse the decision zone. With a typical eight second minimum duration, the probability that the image will change as vehicles traverse the decision zone is 1 in 4. The probability of a display change as a vehicle transits the decision zone could be reduced by increasing the minimum display time.

The number of trucks turning left at the intersection accounts for less than five percent of all turning movements. Therefore, the probability that the billboard image changes while a truck is traversing the critical



August 3, 2020

John Scheele

Page 2 of 5

**Reference:** Lincoln Road Billboard – CCC RFI

zone will be less than 1 in 100 if a typical image minimum duration of eight seconds is adopted and would lower with a longer minimum display duration.

Since the secondary signal aspect will remain visible at all times to all drivers approaching the intersection, the short period of potential conflict for truck drivers is not expected to adversely affect safety. Any concerns with this potential conflict could be addressed by increasing the minimum image duration time.

## **INTERSECTION SEPARATION**

Digital billboards have now been installed in a wide variety of locations across the country and there is no evidence in the crash record that suggests any adverse safety impacts despite the fact that many of these are located close to signalised intersections.

The ARRB study of before and after driver performances and road safety at signalised intersections where billboards were established revealed no adverse effects. In fact, driver safety performances slightly improved following implementation of a digital billboard.

## **CONCLUSIONS**

Overall, it is considered that while the projected position of the signal aspects may track across the corner of the billboard from the typical eye height of a truck driver, this will not be the case for car drivers. With the billboard being some 60m downstream of the signals, the presence of the billboard is not expected to have any adverse effects on road safety because:

- The likelihood of the billboard image changing as drivers traverse the critical decision zone is low.
- The billboard does not conflict with signal aspects for car drivers which account for 95% of vehicle movements.
- Since the surrounding backing board is black, the visibility of the aspect is unlikely to be confused with the content of the billboard.

**Chris Rossiter**

Principal Transportation Engineer

Phone: 03 926 2206

Email: [chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)

Reference: Lincoln Road Billboard – CCC RFI

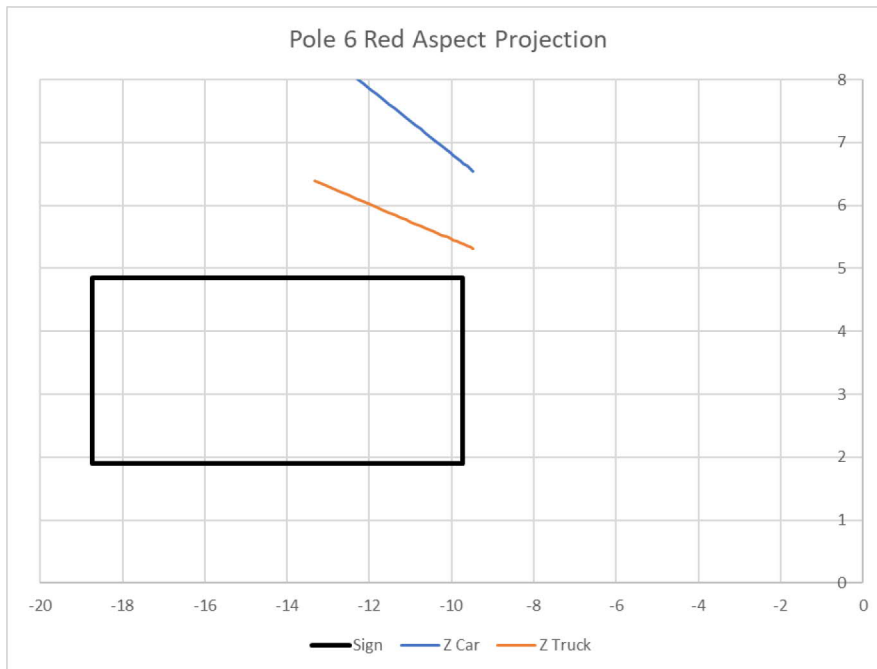


Figure 1: Pole 6 Red Aspect Projection

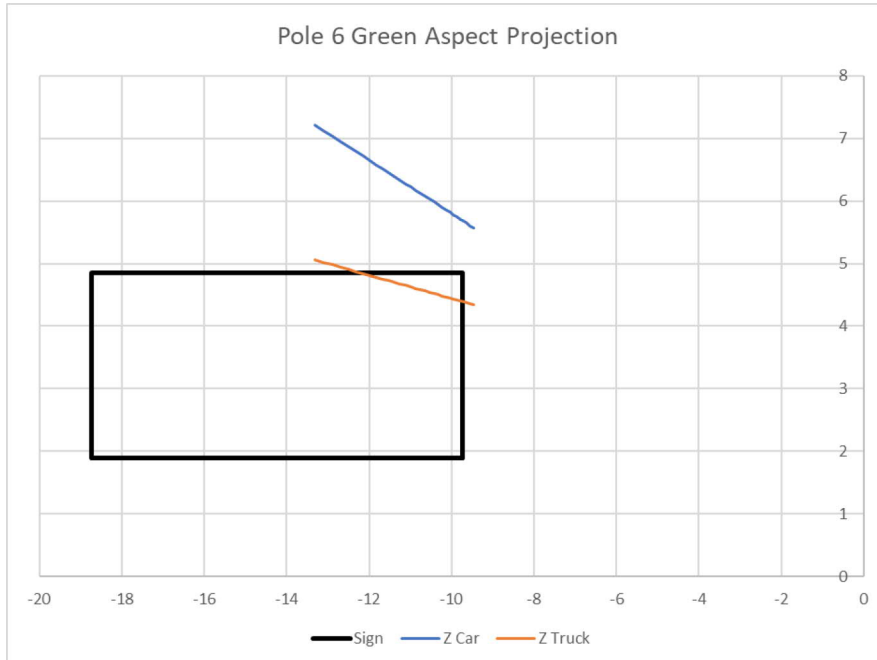


Figure 2: Pole 6 Green Aspect Projection

Reference: Lincoln Road Billboard – CCC RFI

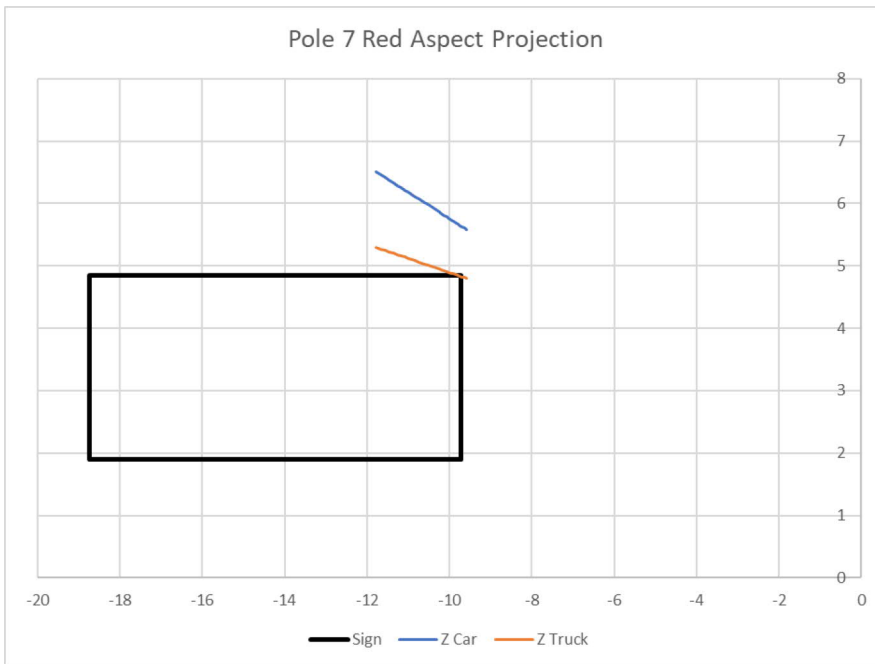


Figure 3: Pole 7 Red Aspect Projection

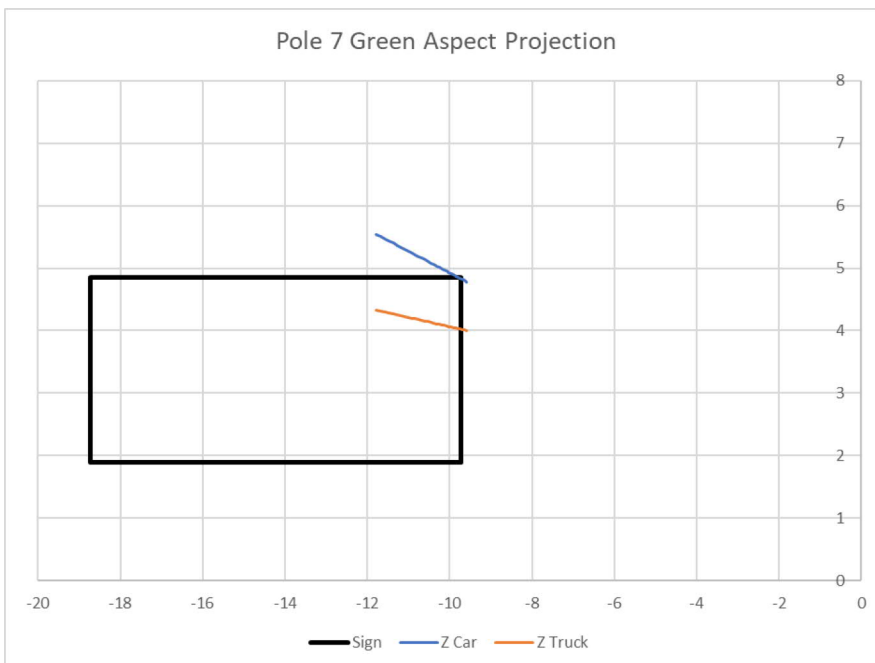


Figure 4: Pole 7 Green Aspect Projection

Reference: Lincoln Road Billboard – CCC RFI

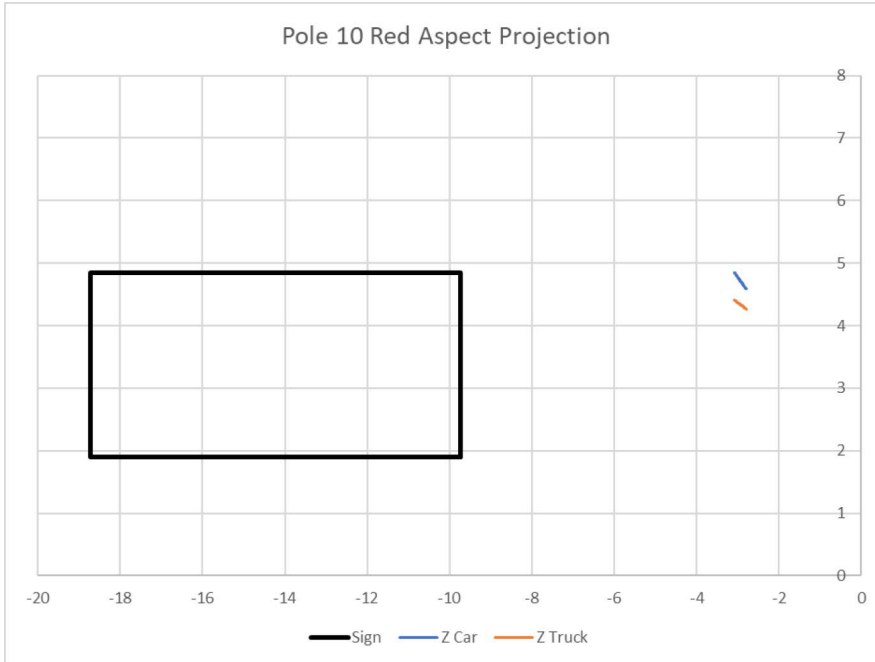


Figure 5: Pole 10 Red Aspect Projection

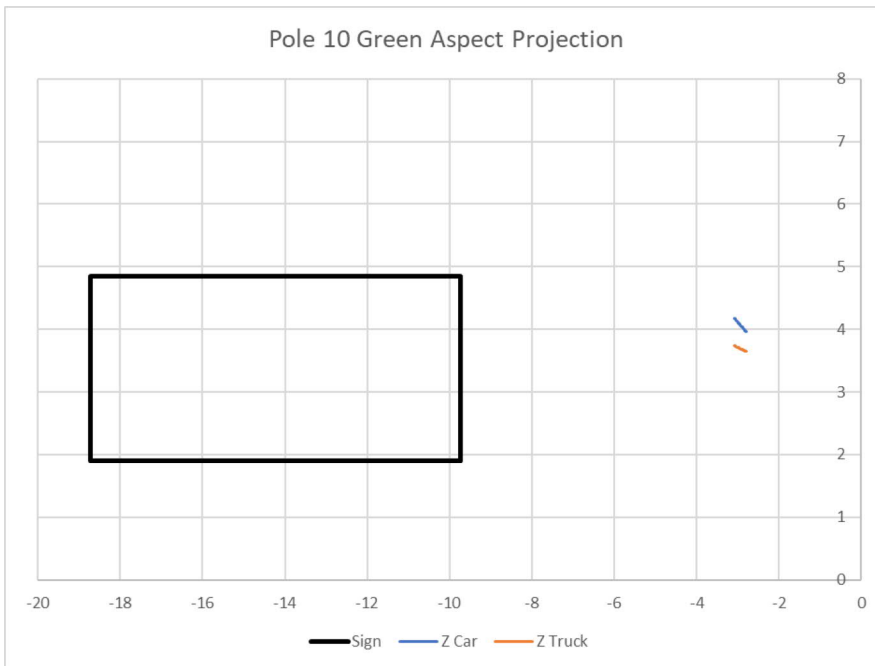
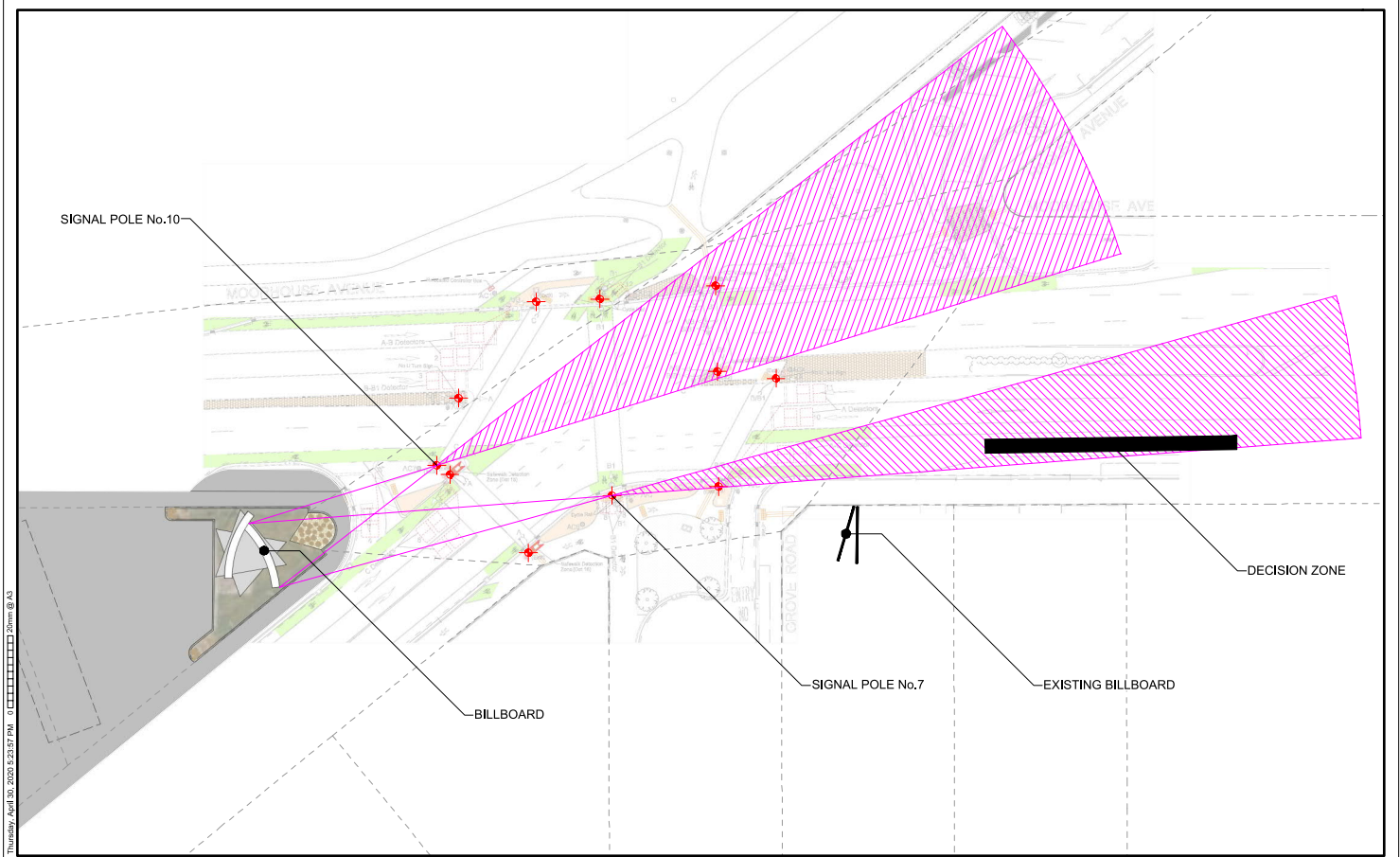


Figure 6: Pole 10 Green Aspect Projection



REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION	AKJ	AKJ

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE  
BILLBOARD SIGHTLINES**

DRN: AKJ	DATE: 24/02/2020	REV: 0
SCALE: 1:500 @ A3		
STATUS:		
DWG NO: 310203650_C1B		

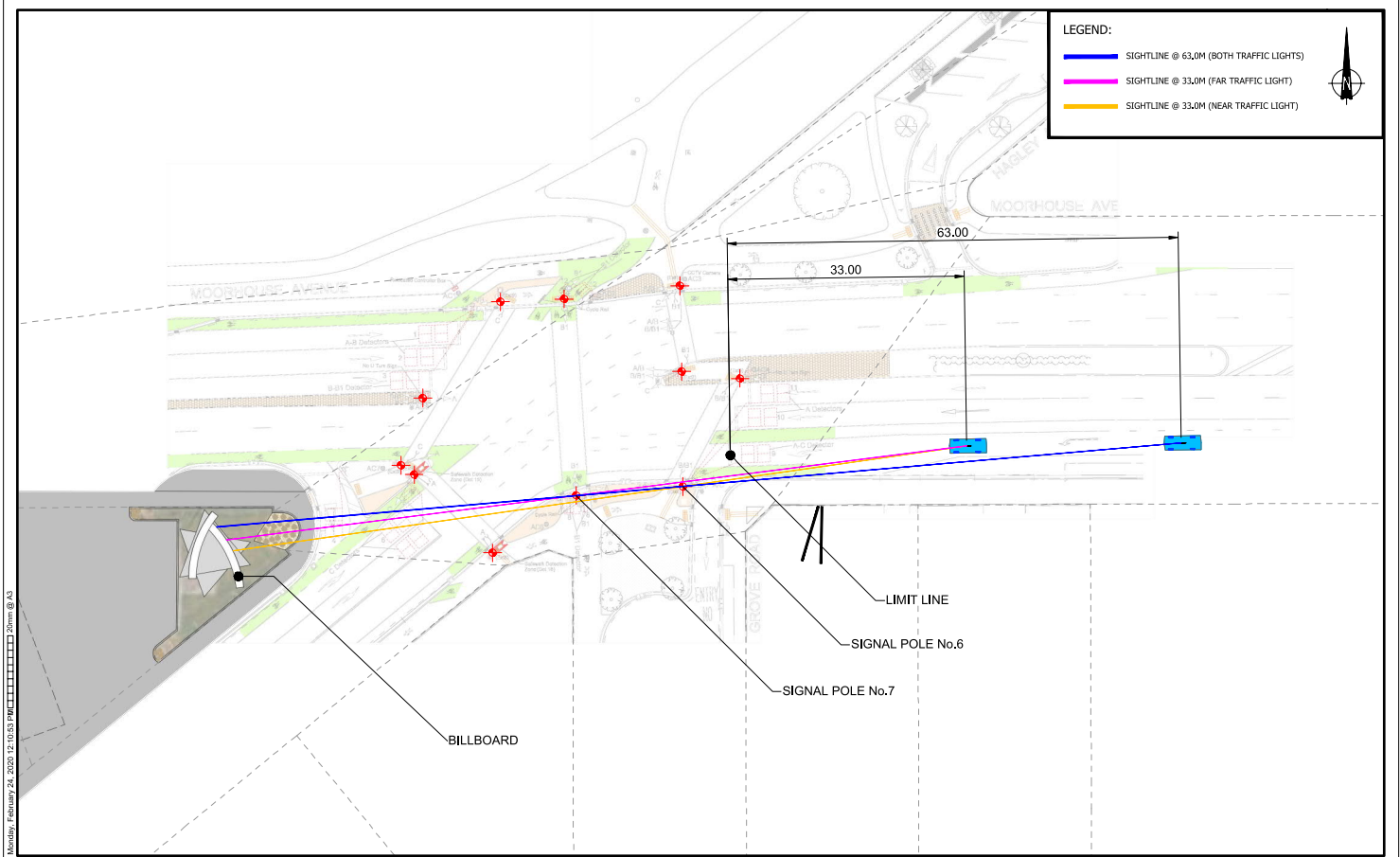
**Startec**

**1**

SHT 1 OF 4

U:\310203650\100\104\_lincoln\_road\technicalDrawings\CAD\310203650\_C1B.dwg

Thursday, April 30, 2020 5:23:57 PM 0 [XXXXXXXXXXXX] [XXXX] @ A3



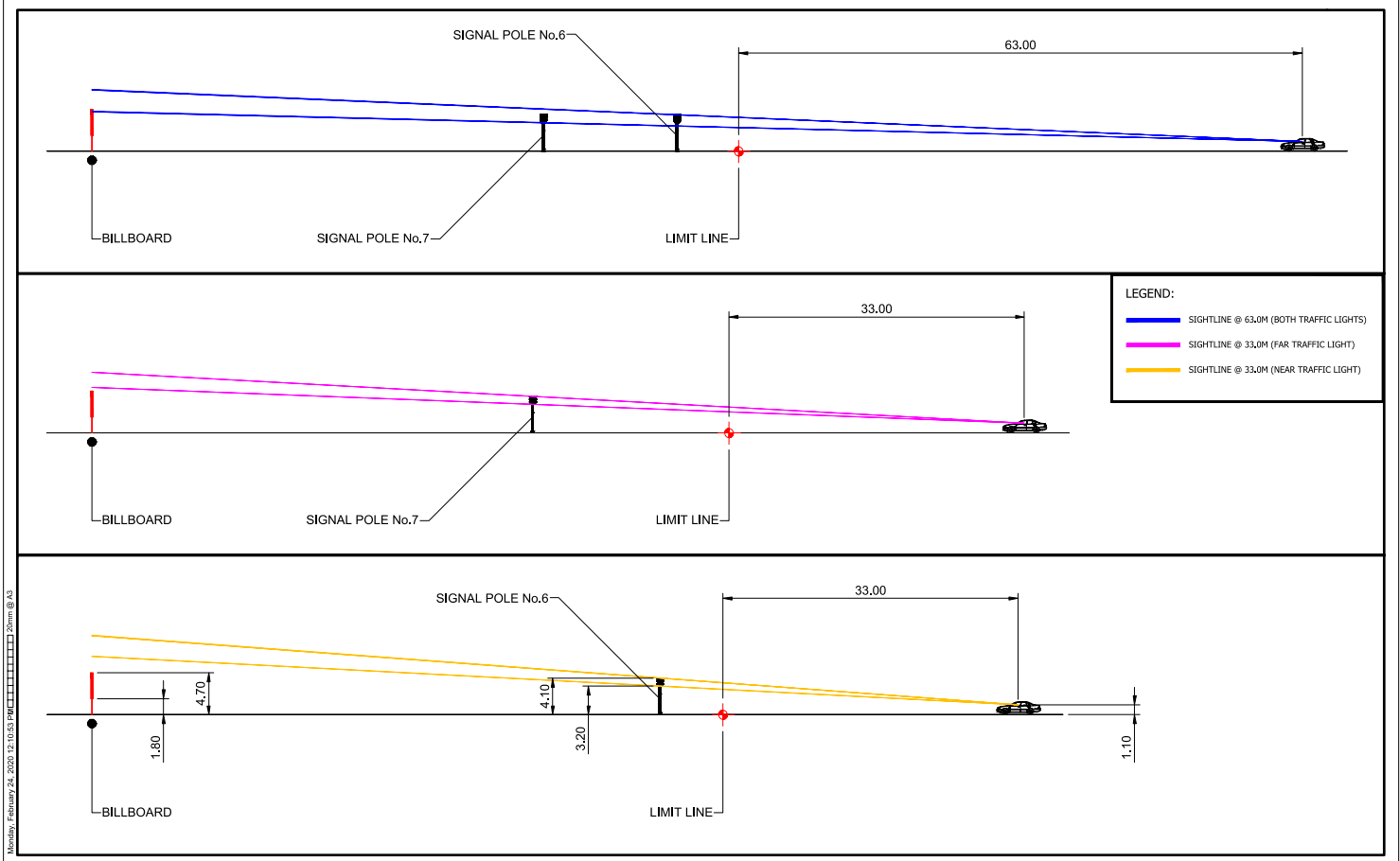
REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION		

GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE  
BILLBOARD SIGHTLINES

DRN: AKJ | DATE: 24/02/2020 | REV: 0  
SCALE: 1:500 @ A3  
STATUS:  
DWG NO: 310203650\_C1B

**Startec** **2**  
SHT 2 OF 4

U:\310203650\100-104\_incoke\_road\technicalDrawings\CAD\310203650\_C1B.dwg



**LEGEND:**

- SIGHTLINE @ 63.0M (BOTH TRAFFIC LIGHTS)
- SIGHTLINE @ 33.0M (FAR TRAFFIC LIGHT)
- SIGHTLINE @ 33.0M (NEAR TRAFFIC LIGHT)

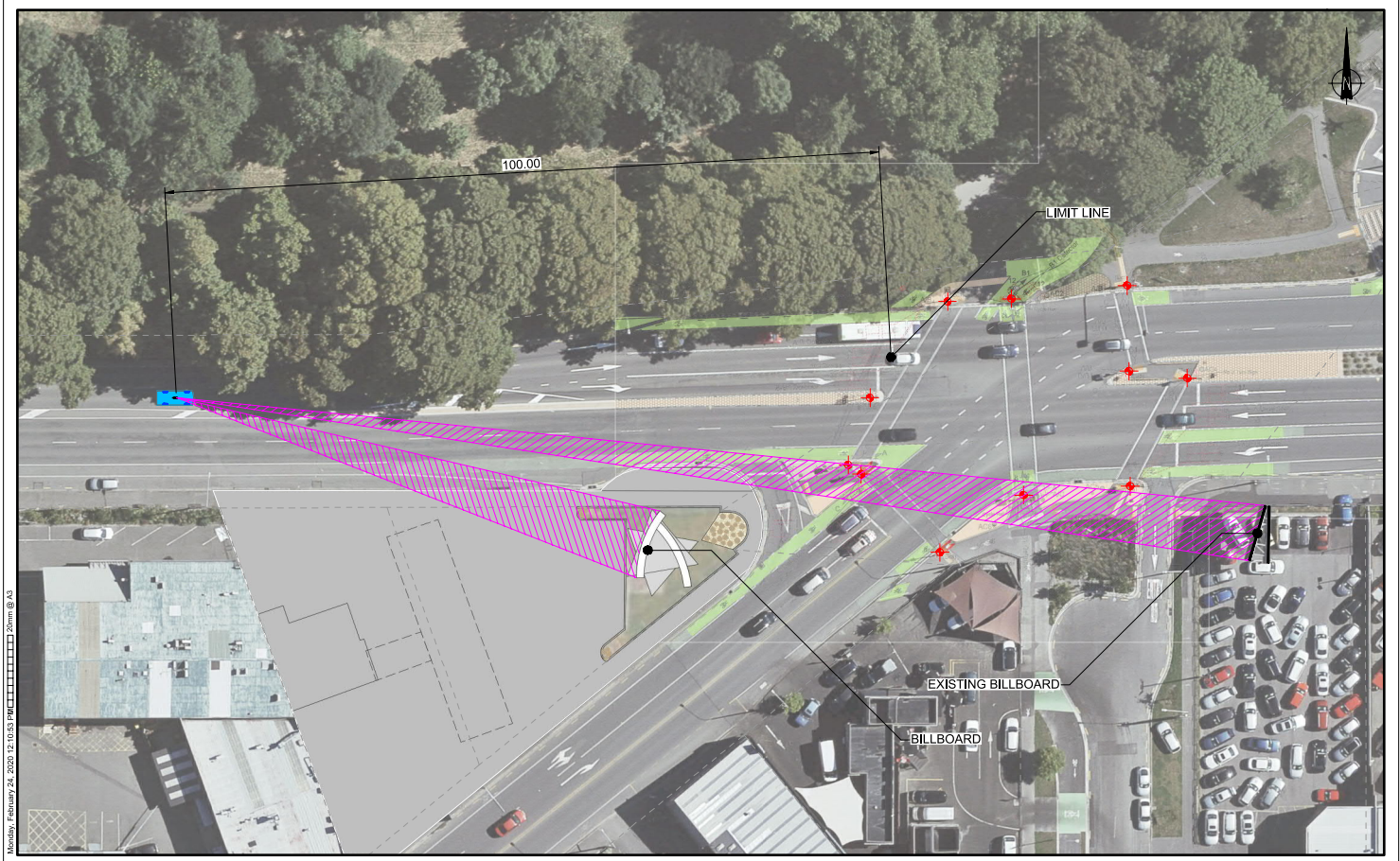
REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION		

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE**  
**BILLBOARD SIGHTLINES**

DRN: AKJ	DATE: 24/02/2020	REV: 0
SCALE: 1:400 @ A3		
STATUS:		
DWG NO: 310203650_C1B		

**3**  
 SHT 3 OF 4

U:\310203650\100-104\_lincoln\_road\technicalDrawings\CAD\310203650\_C1B.dwg



Monday, February 24, 2020 12:10:53 PM [C:\Users\jsham@AS\...]@AS

REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION	AKJ	AKJ

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE**  
**BILLBOARD SIGHTLINES**

DRN: AKJ	DATE: 24/02/2020	REV: 0
SCALE: 1:500 @ A3		
STATUS:		
DWG NO: 310203650_C1B		

	4
	SHT 4 OF 4





# INTEGRATED TRANSPORT ASSESSMENT

## 399 LINCOLN ROAD

PREPARED FOR LUMO DIGITAL

5 March 2020



This document has been prepared for the benefit of Lumo Digital. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to Christchurch City Council and other persons for an application for permission or approval to fulfil a legal requirement.

## QUALITY STATEMENT

### CHRISTCHURCH

Hazeldean Business Park, 6 Hazeldean Road, Addington, Christchurch 8024

PO Box 13-052, Armagh, Christchurch 8141

TEL +64 3 366 7449, FAX +64 3 366 7780

## REVISION SCHEDULE

Rev No.	Date	Description	Signature or Typed Name (documentation on file)			
			Prepared by	Checked by	Reviewed by	Approved by
Draft	21/02/2020	Draft Report	CR			
1	05/03/2020	Revision 1	C Rossiter		S Lloyd	M Kyle
2	10/03/2020	Minor corrections	C Rossiter		S Lloyd	M Kyle

# Lumo Digital

399 Lincoln Road

## CONTENTS

1.	Introduction .....	1
2.	Transport Infrastructure .....	1
3.	Travel Patterns .....	2
3.1	Traffic Volumes .....	2
3.2	Road Safety .....	2
4.	Proposed Billboard .....	3
4.1	Overview .....	3
4.2	Sign Operation .....	5
5.	Expected Traffic Effects .....	6
5.1	Design Criteria .....	6
5.2	East Facing Billboard .....	6
5.3	West-facing Billboard.....	12
5.4	Potential for Conflict with other Billboards.....	13
6.	Christchurch City District Plan.....	15
6.1	Rules for Signs .....	15
7.	Operating Conditions .....	16
8.	Conclusions.....	17

## LIST OF TABLES

Table 6-1: Assessment of Proposal against Permitted Signage Standards, Rule 6.8.4.1.1 .....	15
Table 6-3: Built Form Standards, Rule 6.8.4.2 .....	16

## LIST OF FIGURES

Figure 1-1: Proposed Billboard Location.....	1
Figure 3-1: Moorhouse Ave / Lincoln Rd Turn Volumes - Morning Peak Hour .....	2
Figure 3-2: Moorhouse Ave / Lincoln Rd Turn Volumes - Evening Peak Hour .....	2
Figure 3-3: Crash Location Diagram 2015-19 .....	3
Figure 5-1 .....	9
Figure 5-2.....	10
Figure 5-3.....	11
Figure 5-4.....	14

## APPENDICES

Appendix A	Photographs.....	1
A.1	Eastern Approach – Through Lane .....	1

# 1. Introduction

Lumo Digital proposes to install a digital billboard at 399 Lincoln Road which is located on the south-western corner of the Lincoln Road / Moorhouse Avenue signalised intersection in Christchurch as shown in Figure 1-1.



Figure 1-1: Proposed Billboard Location

The digital billboards will be located on land that is zoned as Industrial General. Digital signs are a permitted activity in this zone where they comply with the built form standards and are located more than 50m from any signalised intersection. Since the proposed billboards will have an area of more than 18sqm and are located less than 50m from a signalized intersection, they represent a Restricted Discretionary activity.

This report provides an assessment of the potential traffic related effects of the proposed digital billboards. It includes a description of the existing transport environment, details of the proposed signage and assessment against the transport and signage rules in the Christchurch City District Plan.

## 2. Transport Infrastructure

Lincoln Road is classified as a Minor Arterial road in the Christchurch City District Plan between Whiteleigh Avenue and Moorhouse Avenue. It has been generally constructed as a two-lane urban road with localised widening at intersections and provides space for parking on both sides of the road. The road widens north of the railway crossing to two lanes on its approach to the Moorhouse Avenue intersection.

Moorhouse Avenue is classified as a Major Arterial road. East of Lincoln Road, it has been constructed as a six-lane divided road with auxiliary turn lanes at intersections. West of Lincoln Road, it has been constructed as a four-lane divided road.

Both Lincoln Road and Moorhouse Avenue have a sign posted speed limit of 50km/h.

The Moorhouse Avenue / Lincoln Road intersection is controlled by signals with phasing that provides fully protected crossing opportunities for both pedestrians and cyclists. The Moorhouse Avenue eastern

approach has two through lanes separated from the left turn lane by a cycle lane. There is a second section of cycle lane on the kerb-side of the left turn lane.

### 3. Travel Patterns

#### 3.1 Traffic Volumes

Christchurch City Council (CCC) regularly collects traffic volume information on its road network. Turn count information was collected for the Moorhouse Avenue / Lincoln Road intersection in November 2017. Figure 3-1 and Figure 3-2 show the turn count volumes recorded during the morning and evening peak periods. The general pattern of flows is very similar in both the morning and evening peak periods but the total volumes of movements is higher during the evening peak hour.

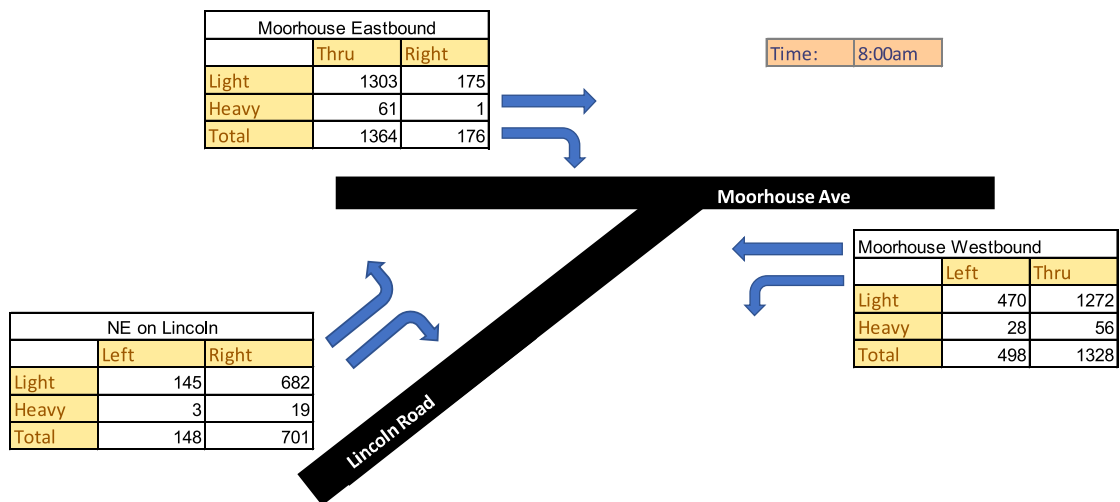


Figure 3-1: Moorhouse Ave / Lincoln Rd Turn Volumes - Morning Peak Hour

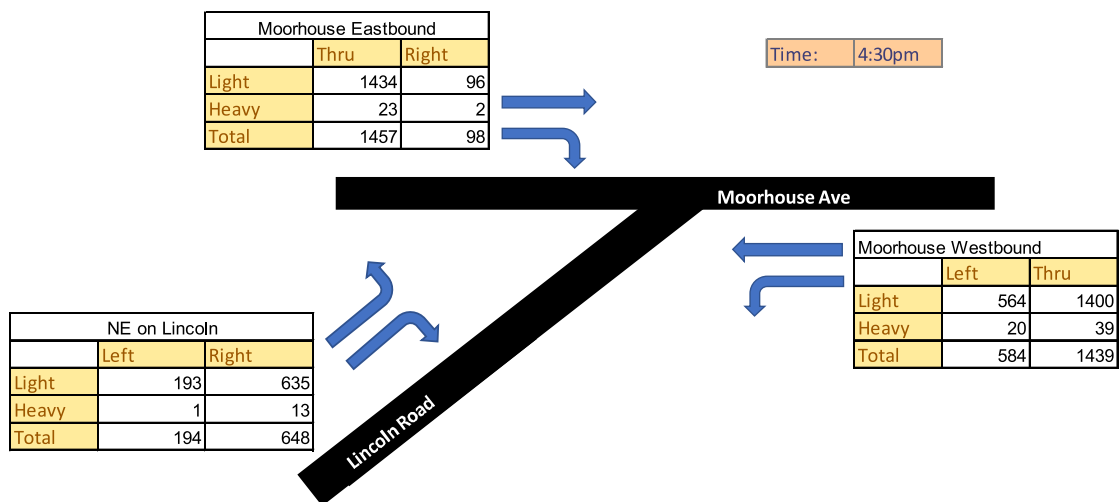


Figure 3-2: Moorhouse Ave / Lincoln Rd Turn Volumes - Evening Peak Hour

#### 3.2 Road Safety

The NZTA Crash Analysis System has been used to investigate the safety record of the Moorhouse Avenue / Lincoln Road intersection. Figure 3-3 shows the location of all crashes within the immediate vicinity of the intersection that have been reported over the five-year period 2015-2019.

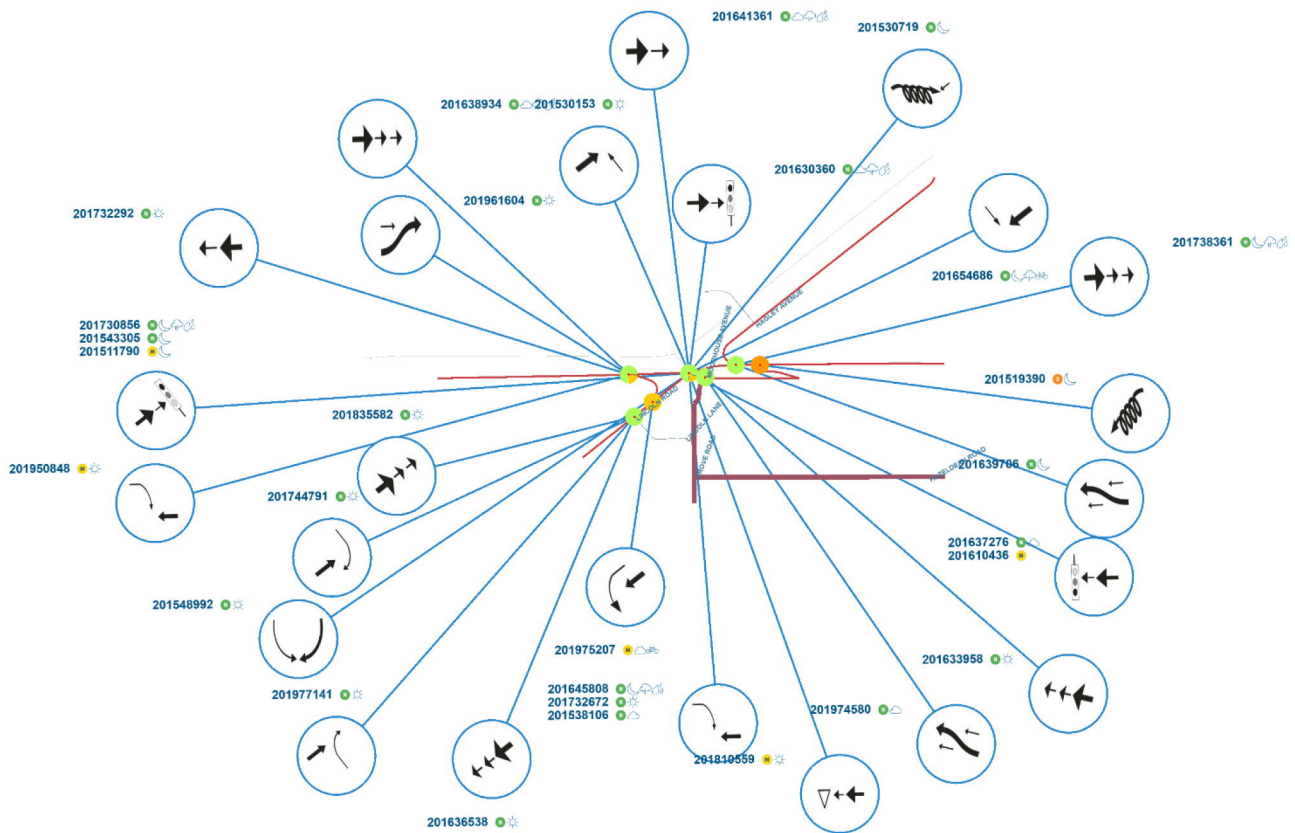


Figure 3-3: Crash Location Diagram 2015-19

There have been 29 crashes reported within 200m of the intersection including one that resulted in serious injuries and five that caused minor injuries.

The serious injury crash occurred on Moorhouse Avenue east of the intersection and occurred in the early hours of the morning when an intoxicated driver lost control of their vehicle and collided with a pole on the side of the road. No other vehicles were involved.

One of the minor injury crashes involved a collision between a cyclist and motor vehicle as it turned into a driveway. There were three rear end crashes on Moorhouse Avenue east of the intersection, one during the night, one in the middle of the day and one during the late evening period. Each one was attributed to the driver failing to notice a slowing vehicle. The other minor injury crash occurred when a right turning vehicle from Moorhouse East misjudged the speed of an oncoming vehicle.

Eleven of the 21 non-injury crashes involved rear-end collisions resulting from a range of contributing factors including: drivers following too closely, inattention and excess alcohol. These types of crashes occurred on all three approaches to the intersection and were more frequent during the afternoon peak period.

The other non-injury crashes were associated with lane change manoeuvres or as vehicles turned right.

## 4. Proposed Billboard

### 4.1 Overview

The proposed billboards will comprise two separate digital displays: a 9m wide, curved display facing east and a 9m wide, curved display facing west. Each display face will be about 3m high with their base being 1.8m above ground level.





Photograph 1: Indicative Image of the Billboard – View West

Photograph 1 shows a view of the proposed billboard from the eastern approach to the signals. It shows the secondary and tertiary signal aspects for the through movement to the right of the billboard location. The secondary signal aspect for the left turn lane is combined with the tertiary through signal aspect to the right of the billboard while the tertiary left turn aspect is visible to the left. The primary signal aspects for both the through and left turn movements are not shown in the photograph but are located immediately to the left of the camera position.

Photograph 2 shows a view towards the billboard from west of the signalised intersection. In this location, the billboard does not conflict with any of the signal aspects for the westbound movements.



Photograph 2: Indicative Image of the Billboard from Moorhouse Avenue West Approach

## 4.2 Sign Operation

It is proposed that the digital signs will be operated in accordance with the Christchurch City District Plan rules for digital signs, that is:

1. The billboard shall generate no more than 10lux light spill of light when measured 2m from any arterial or collector road.
2. No live or broadcast images shall be displayed. Only still images shall be displayed with a minimum duration of 8 seconds.
3. There shall be no movement or animation of images displayed on the screen.
4. The material displayed on the screen shall not contain any flashing images and the screen itself shall not contain any retroreflective material.
5. There shall be no transitions between images apart from cross-dissolve of maximum duration of 0.5 seconds.
6. There shall be no sound associated with the screen and no sound equipment is to be installed as part of the screen.
7. The screen shall incorporate lighting controls to adjust brightness in line with ambient light conditions.

## 5. Expected Traffic Effects

### 5.1 Design Criteria

Since the proposed digital billboards will be located close the Moorhouse Avenue / Lincoln Road signalised intersection, the position and size of the signs have been reviewed to ensure that they minimise any potential for conflict with signal aspects.

It is considered that the most critical part of the approach in terms of the potential for driver distraction is the decision zone. This represents the part of the approach where a driver will decide to stop or continue. Since the sign-posted speed limit is 50km/h, a design speed of 55km/h has been adopted for this assessment.

The Approach Sight Distance (ASD) represents the distance travelled by a vehicle as driver observes, responds and then brakes. At an approach speed of 55km/h and allowing for a comfortable deceleration rate, the ASD is 63m. Therefore, vehicles at a distance of more than 63m from the limit line would be expected to stop if the signal changed from green to amber.

A vehicle will travel about 46m if it brakes from an initial speed to of 55km/h at a comfortable deceleration rate and 33m if it decelerates at the maximum design rate. On this basis, vehicles that are closer than 33m from the limit line when the signal changes would normally continue through the signal.

Together, the ASD and braking distance provide limits on the decision zone for any approach, that is, approximately 33m to 63m in advance of the limit line.

### 5.2 East Facing Billboard

Photograph 3, Photograph 4, Photograph 5 and Photograph 6 show the driver view from the left turn lane towards the proposed billboard location (Indicated in Amber) from distances of about 90m, 70m, 50m and 30m in advance of the limit line respectively. At 90m and 70m, the backing boards for primary and tertiary signal aspects appear over the right-hand corner of the billboard. At closer distances, the signal aspects are clearly visible above the billboard.



Photograph 3: Moorhouse Avenue View West – Approximately 90m from limit line



Photograph 4: Moorhouse Avenue View West – Approximately 70m from limit line



Photograph 5: Moorhouse Avenue View West – Approximately 50m from limit line



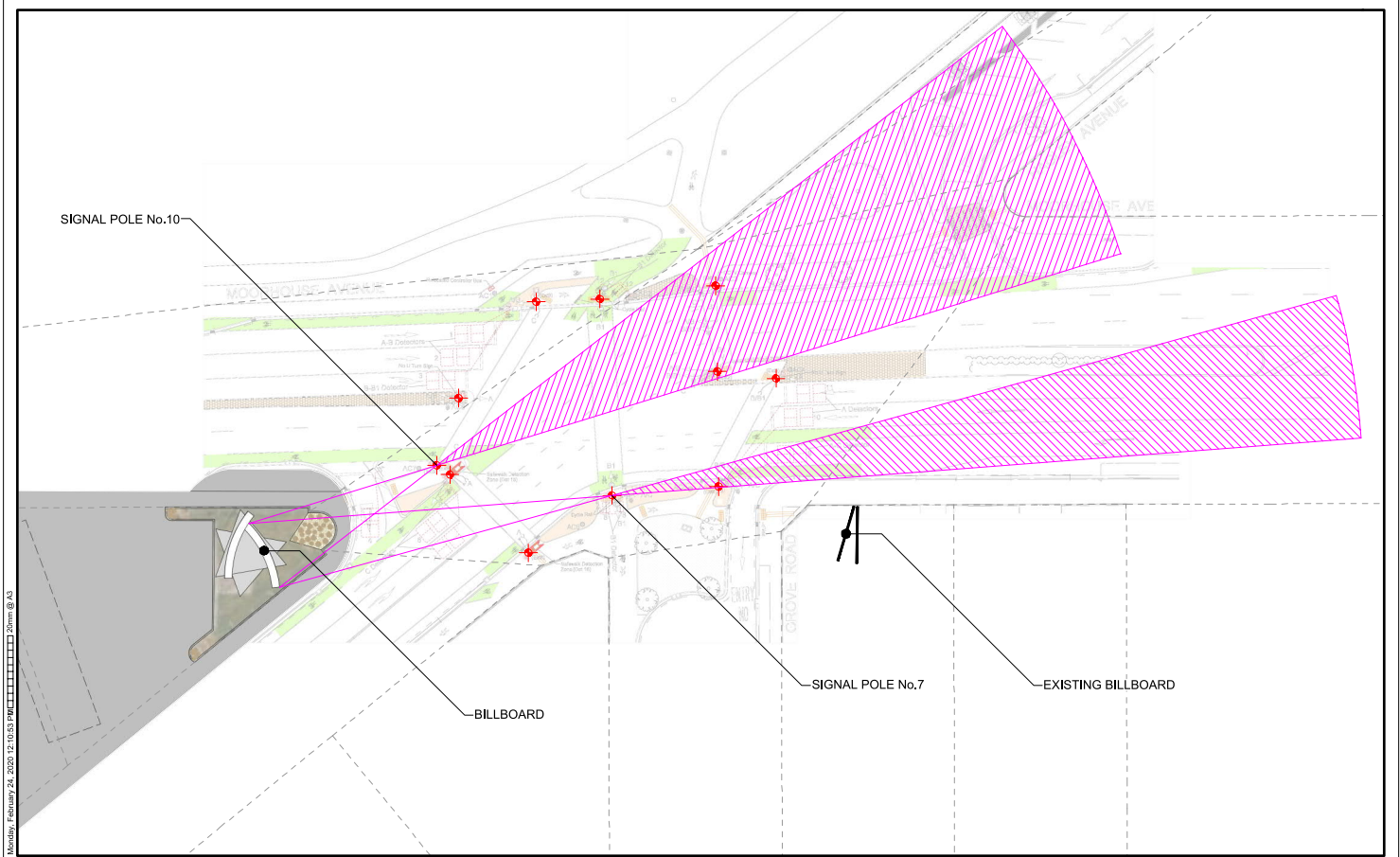
Photograph 6: Moorhouse Avenue View West – Approximately 30m from limit line

Figure 5-1 and Figure 5-3 show the horizontal and vertical alignment of sightlines from positions at the start and end of the decision zone. While Figure 5-1 shows that the Advance Primary and Primary traffic signals will be aligned with the billboard when viewed from the start and end of the decision zone, Figure 5-3 demonstrates that a driver's view when within the decision zone in the left turn lane is such that the signal lanterns will always be visible above the billboard.

The east-facing billboard is located about 60m behind the primary signal aspects for the left turn lane and in that position occupies a small part of the driver's field of view. It has also been noted that:

- The signal aspects all have standard black backing boards designed to ensure the signals stand out regardless of the background environment.
- The signal aspects have bright LED lights, which will be brighter than background digital billboards.
- The significant distance between the aspects and billboard allows for a changing relative view and size between the aspects as a driver travels through the decision-making zones closer to the intersection. Most significantly, the relative position of the signal aspect rises above the billboard as the driver approaches the limit line which reduces any potential for conflict.
- The billboard is a completely different shape to the signal aspects, and the signal aspects have long yellow poles as an additional identifier, consistent across all traffic signals in New Zealand.
- The traffic signalised intersection has built-in redundancy, and in this case, the secondary signal aspect remains visible at all times to the right of the billboard.

Based on these observations, and the above matters, it is considered that the proposed billboard sitting in the background is unlikely to cause drivers confusion in identifying the traffic signal aspects.



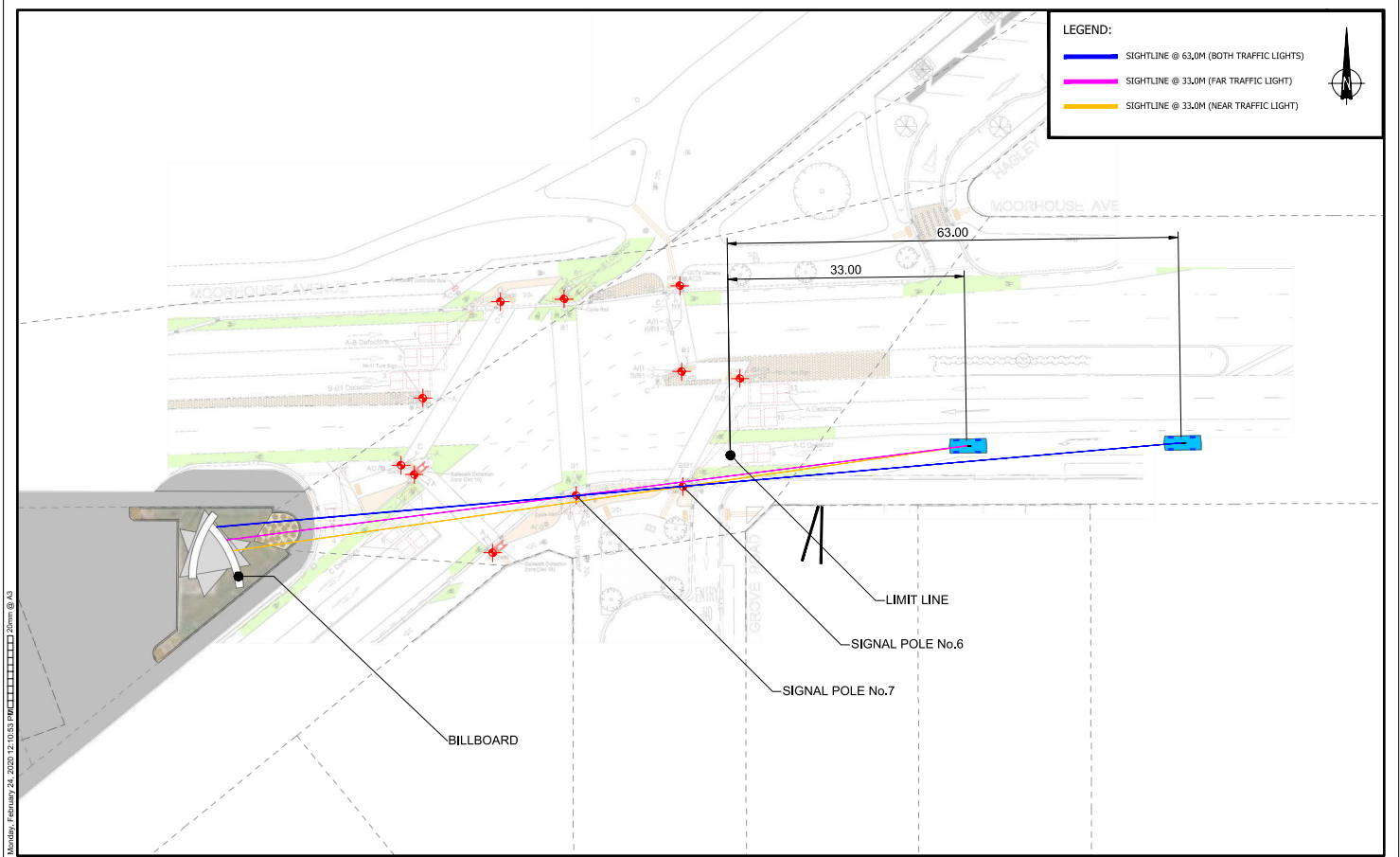
Monday, February 24, 2020 12:10:53 PM [User]@AS

REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION		

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE  
BILLBOARD SIGHTLINES**

DRN: AKJ	DATE: 24/02/2020	REV: 0
SCALE: 1:500 @ A3		
STATUS:		
DWG NO: 310203650_C1B		

	1
	SHT 1 OF 4



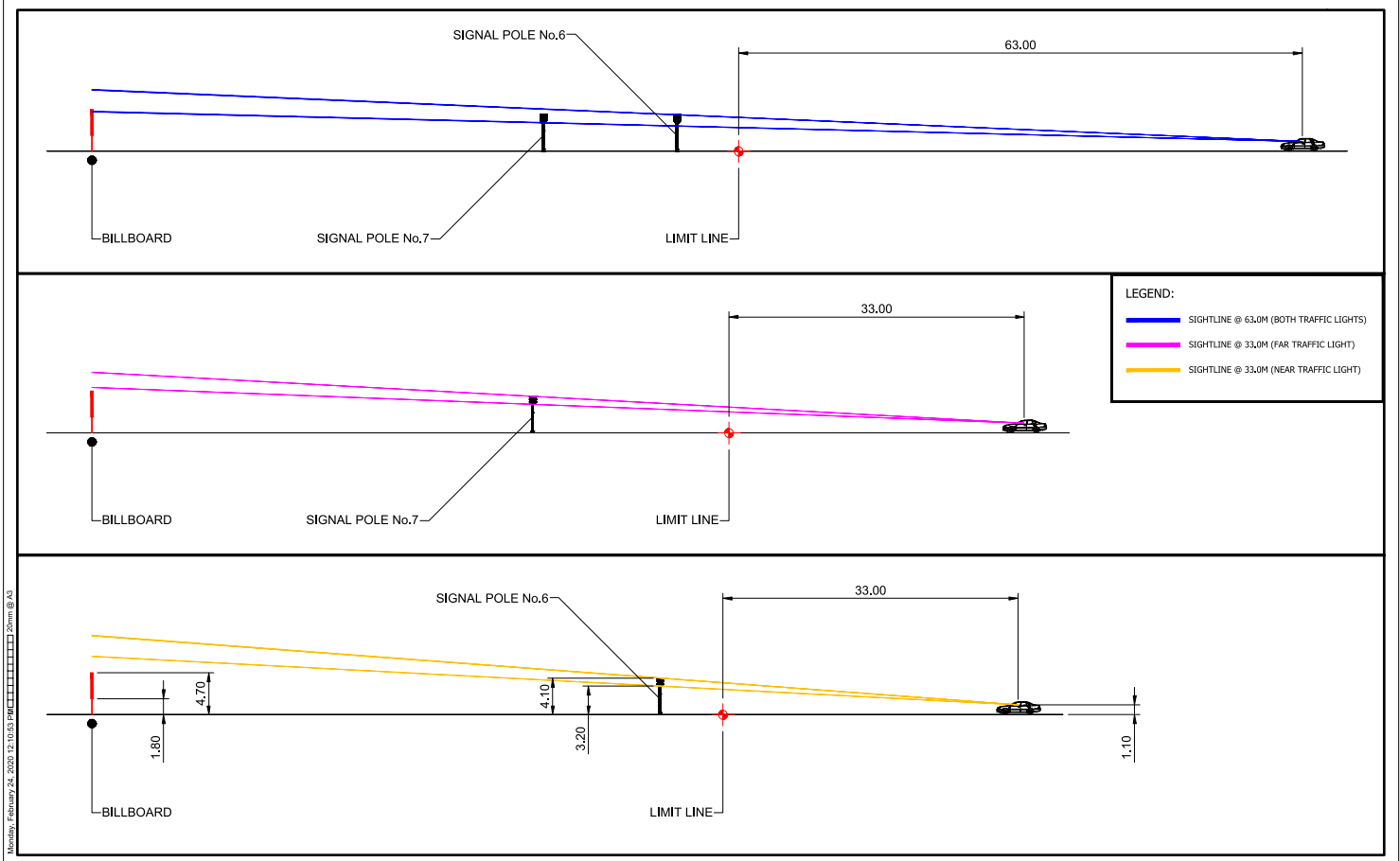
REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION		

GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE  
 BILLBOARD SIGHTLINES

DRN: AKJ | DATE: 24/02/2020 | REV: 0  
 SCALE: 1:500 @ A3  
 STATUS:  
 DWG NO: 310203650\_C1B

**Startec** 2  
 SHT 2 OF 4

U:\310203650\100-104\_incoln\_road\technicalDrawings\CAD\310203650\_C1B.dwg



**LEGEND:**

- SIGHTLINE @ 63.0M (BOTH TRAFFIC LIGHTS)
- SIGHTLINE @ 33.0M (FAR TRAFFIC LIGHT)
- SIGHTLINE @ 33.0M (NEAR TRAFFIC LIGHT)

REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION		

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE**  
**BILLBOARD SIGHTLINES**

DRN: AKJ	DATE: 24/02/2020	REV: 0
SCALE: 1:400 @ A3		
STATUS:		
DWG NO: 310203650_C1B		

 **3**  
 SHT 3 OF 4

U:\310203650\100-104\_lincoln\_road\technicalDrawings\CAD\310203650\_C1B.dwg



Appendix 1 includes a series of photographs that show the driver views towards the proposed billboard location from the kerb-side through lane westbound on Moorhouse Avenue. As with the left turn lane, the primary signal aspect will appear in front of the digital billboard at distances in excess of 80m but as the vehicle approaches closer, the relative position of the billboard to the signal aspect will move to the left and below the signal aspect in the line of sight. The dual primary, secondary and tertiary signal aspects do not appear in front of the billboard at any stage. Since there are three signal aspects that have no potential for confusion with the digital sign, it is considered that the simultaneous change of signal aspects even if the primary aspect was not clear of the billboard will be more noticeable than any change in the billboard because this will occur in the primary field of view.

### 5.3 West-facing Billboard

**Photograph 7** and **Photograph 8** demonstrate that the west-facing billboard is located in a position that is not located in the sightlines towards any west-facing signal aspects at the intersection because of its position 5m to the south of the carriageway and because all signal aspects for the eastbound movements are located on either side of the eastbound carriageway. In this position, the content of the billboard will not obstruct or obscure visibility of any signal aspects for the western approach.



Photograph 7: Moorhouse Avenue Eastbound Traffic Lane East of intersection – View East



Photograph 8: Moorhouse Avenue Eastbound Traffic Lane East of intersection – View East

## 5.4 Potential for Conflict with other Billboards

There is an existing, double sided digital billboard located about 50m east of the Moorhouse Avenue / Lincoln Road intersection. The billboard has been installed on a pylon so that it is visible above the sight line to signal aspects as drivers travel westbound along the Moorhouse Avenue. The billboard is visible to the left of the proposed billboards in Photographs 2 – Photograph 5. Since the proposed billboard would be separated by a distance of more than 80m from the existing billboard, it occupies a smaller viewing angle than the existing billboard as drivers approach from the east. This means that any change in the image on the proposed billboard will be less noticeable than any change on the existing billboard.

Since the existing sign is not owned by Lumo Digital, it is not practical or possible to co-ordinate the image transitions with the proposed sign and it is likely that both images will change at different times. The lack of coordination is not expected to contribute a higher level of distraction than any single sign because the signs form part of the general roadside advertising that is present along Moorhouse Avenue and what is visible to a driver changes as they travel along Moorhouse Avenue.

For eastbound drivers on Moorhouse Avenue, the proposed billboard will be visible to the right and below the existing billboard. Although there is less signage on Moorhouse Avenue west of the intersection, a drivers' forward view is dominated by signage to the east of the intersection. Although the image updates are unlikely to be synchronised, as before, this is not expected to be a cause of distraction because the drivers' attention is expected to be more focused on the signal aspects than the signage on the right hand side of the road.



Monday, February 24, 2020 12:10:53 PM [C:\Users\jsham@AS\...]@AS

REV	DATE	DRN	DESCRIPTION	CHK	APPR
1	24/02/2020	AKJ	ISSUED FOR INFORMATION	NA	NA

**GROVE RD / HAGLEY AVE / LINCOLN RD / MOOREHOUSE AVE**  
**BILLBOARD SIGHTLINES**

DRN: AKJ    DATE: 24/02/2020    REV: 0  
 SCALE: 1:500 @ A3  
 STATUS:  
 DWG NO: 310203650\_C1B

 **4**  
 SHT 4 OF 4

## 6. Christchurch City District Plan

### 6.1 Rules for Signs

Rules relating to signage are set out under Section 6.8 of the Christchurch City District Plan. From a transport perspective, the critical policy is 6.8.2.1.4 which states:

*Ensure that signs do not cause obstruction and/or distraction for motorists and pedestrians and other road users.*

The following tables provide an assessment of the proposed signs against the standards set out under Rule 6.8.4.1.1 P15 and Rule 6.8.4.1.2. Based on this assessment, the proposed sign is considered to be a Restricted Discretionary activity

Table 6-1: Assessment of Proposal against Permitted Signage Standards, Rule 6.8.4.1.1

Activity Specific Standard	Proposal	Compliance Assessment
P15 Static and digital display billboards located on sites fronting arterial roads and/or collector roads within: a) the Commercial Retail Park Zone and the Commercial Mixed Use Zone; b) the Specific Purpose (Airport) Zone; and c) all industrial zones, other than the Industrial Park Zone (Memorial Avenue).	Site is located in an Industrial General zone	Permitted subject to compliance with built form standards
P15 a) The maximum area of any single billboard shall be 18m <sup>2</sup> .	Each display face exceeds 18m <sup>2</sup> .	Restricted Discretionary
P15 b) The maximum height shall be 9m	4.8m	Permitted
P15 c) The site shall have a minimum road frontage of 40m per billboard.	Road frontage exceeds 80m	Permitted
P15 c) No more than two billboards per site	2 displays proposed	Permitted
P15 d) Any billboard shall not be directly visible from any site within a residential zone.	Located in Industrial General Zone	Permitted
P15 e) Each billboard shall be subject to a written maintenance program	Not currently specified but no reason for non-compliance	Permitted
P15 f) The billboard shall be located at least 50m from the nearest signalised intersection.	Nearest signals are 20m away	Restricted Discretionary
P15 g) The billboard shall result in no more than 10lux light spill of light when measured 2m from any arterial or collector road.	Can comply subject to appropriate design conditions	Permitted
P15 h) No live or broadcast images shall be displayed. Only still images shall be displayed with a minimum duration of 7 seconds.	Only static images are proposed with a minimum update interval of 8 seconds	Permitted
P15 i) There shall be no movement or animation of images displayed on the screen.	Only static images are proposed	Permitted
P15 j) The material displayed on the screen shall not contain any flashing images and the screen itself shall not contain any retroreflective material.	Only static images are proposed	Permitted
P15 k) There shall be no transitions between images apart from cross-dissolve of maximum duration of 0.5s.	Can comply subject to appropriate design conditions	Permitted
P15 l) There shall be no sound associated with the screen and no sound equipment is to be installed as part of the screen.	No sound equipment proposed	Permitted

Activity Specific Standard	Proposal	Compliance Assessment
P15 m) the screen shall incorporate lighting controls to adjust brightness in line with ambient light conditions.	Can comply subject to appropriate design conditions	Permitted
P15 n) the billboard shall not be located on or adjacent to a state highway with a speed limit of greater than 70km/h	Lincoln Road and Moorhouse Avenue are not state highways and are subject to 50km/h speed limit	Not applicable

It has been noted that residential apartments have been constructed in the Central City Mixed Use (CCMU) zoned land on the opposite corner to the proposed billboard location. The apartments have been constructed with windows facing towards Hagley Avenue and Hagley Park and so do not have a direct view towards the Moorhouse Avenue / Lincoln Road signals. Even though the apartments are in a CCMU zone rather than a Residential zone and so do not trigger a non-compliance with P15d, it is considered that the billboard would not be visible from the apartments unless residents actively looked towards the billboard.

Table 6-2 provides an assessment of the proposed sign against the built form standards set out under clause 6.8.4.2.

Table 6-2: Built Form Standards, Rule 6.8.4.2

Rule	Assessment
6.8.4.2a Any sign shall not be located so as to obscure or distract from the interpretation of any traffic sign or control.	See preceding assessment
6.8.4.2b No sign shall be located adjacent to a state highway or arterial road where all of the following criteria are met:  i) the road has a speed limit of 70km per hour or greater; and  ii) the sign is located within a road boundary building setback required by a built form standard for the relevant zone; and  iii) the sign is located within 100 metres (in urban zones) or 200 metres (in rural or open space zones) in front of any official regulatory or warning sign or traffic signal.	Sign meets this standard because: a) Speed limit is 50km/h;

## 7. Operating Conditions

It is recommended that the resource conditions include the following requirement to ensure compliance with the Christchurch City District Plan rules for digital signs in relation to content, transitions and brightness.

1. The billboard shall generate no more than 10lux light spill of light when measured 2m from any arterial or collector road.
2. No live or broadcast images shall be displayed. Only still images shall be displayed with a minimum duration of 8 seconds.
3. There shall be no movement or animation of images displayed on the screen.
4. The material displayed on the screen shall not contain any flashing images and the screen itself shall not contain any retroreflective material.
5. There shall be no transitions between images apart from cross-dissolve of maximum duration of 0.5 seconds.
6. There shall be no sound associated with the screen and no sound equipment is to be installed as part of the screen.
7. The screen shall incorporate lighting controls to adjust brightness in line with ambient light conditions.

## 8. Conclusions

Lumo Digital proposes to install a digital billboard on the south-western corner of the Moorhouse Avenue / Lincoln Road intersection in Christchurch. Since the billboards will be located within 50m of the intersection, this represents a Restricted Discretionary activity under the Christchurch City District Plan.

The detailed analysis of the billboard location with respect to the signal aspects indicates that the billboard will be visible below the signal aspects in the critical decision zone on the eastern approach. On this basis, the billboard is not expected to represent a conflict with the signal.

It has been concluded that the digital billboard proposal can be supported subject to resource consent conditions that control the image types, minimum duration of images, transitions and billboard brightness.

# Appendices



# Appendix A Photographs

## A.1 Eastern Approach – Through Lane



Photograph 9: Moorhouse Avenue – View West (approximately 100m from limit line)





Photograph 10: Moorhouse Avenue – View West (approximately 80m from limit line)



Photograph 11: Moorhouse Avenue – View West (approximately 60m from limit line)



Photograph 12: Moorhouse Avenue – View West (approximately 40m from limit line)



Photograph 13: Moorhouse Avenue – View West (approximately 30m from limit line)



Photograph 14: Moorhouse Avenue – View West (approximately 20m from limit line)

**Christchurch**

Hazeldean Business Park, 6 Hazeldean Road  
Addington, Christchurch 8024  
PO Box 13-052, Armagh  
Christchurch 8141  
Tel +64 3 366 7449  
Fax +64 3 366 7780

Please visit [www.stantec.com](http://www.stantec.com) to learn more about how  
Stantec design with community in mind.