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Heritage Impact Statement: replacement of Neon Tubing on **HERALD SUN** skysign at Flinders Street, Melbourne (Herald Sun building).

Completed on behalf of Herald and Weekly Times Owners Corporation

Permit Application January 2024



Preparation of the HIS

This HIS has been prepared by heritage ALLIANCE, heritage consultants of North Melbourne.

In the early 2000s this office prepared a ground breaking typological study on the use of neon illuminated signage in the City of Yarra and in Melbourne generally. Since then LED illumination has been growing in prominence because of its lower costs and efficacy. It is starting to take over many forms of what has been traditional illumination.

Client

The client for this proposal is the Owners Committee of the Herald Sun building which is managed through "Engine Property Group" of East Melbourne. The OC has several areas in its control but this application is related only to the roof deck. (see Common Property No. 1 on Level 7 of titles)

Initially this office was tasked by Bentleigh Signs to seek a permit from Heritage Victoria for changing the signage to LED Illumination.

Bentleigh Signs had held discussions in January 2022 with Heritage Victoria (Ann Gove to J Onley) who set some issues to be resolved and these were essentially 1) colour and 2) brightness and 3) that the sign would look very similar to its current state.

Following two trials which used the letter L in the sign, further trials by Bentleigh were disbanded as they were not able to obtain a suitable LED Rope source for the Neon replacement.

Subsequently Major Graphics (signage company) proposed a different form of LED rope which is much closer in colour to the original neon work and the brightness of the Rope is adjustable. This permit application relates to the trials undertaken for the letter R which is close in final colour to the neon tube work and its brightness is adjustable.

Illumination colour is measured in *Kelvin* (named after 1st Baron Kelvin) and broken into warm colours and cool colours. White light neon sits between the warm and cool colours and could be portrayed as neutral. Electrically excited Argon Gas produces white 'neon'.

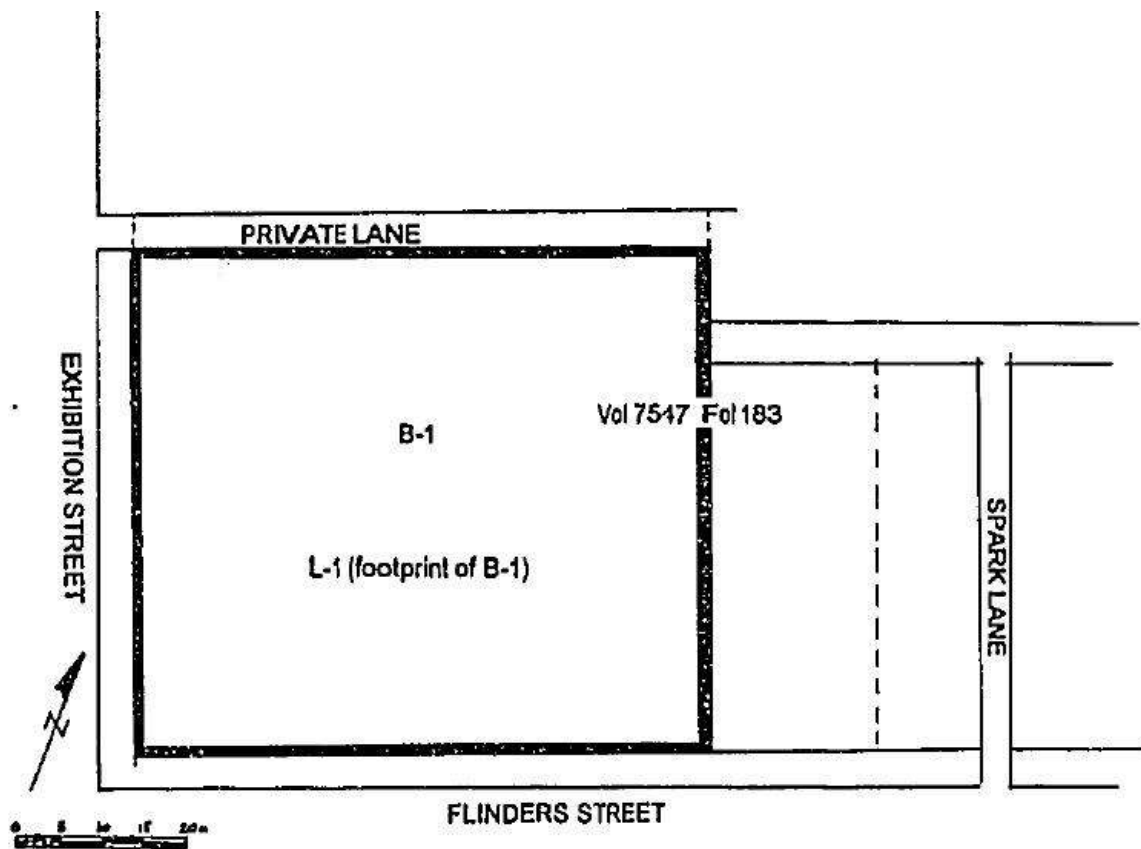
Location of proposal

The Herald Sun building (H1147) is sited at the corner of Exhibition Street and Flinders Street, Melbourne.

The site is occupied a large prominent building previously used as a newspaper publishing house and topped by a prominent sky sign and two radio towers. The sign shone toward the Botanic Gardens and St Kilda Road.

The sign is still illuminated although the building is used for other purposes. The sign is maintained although it is not relevant to the present day purposes of the building.

After the closure of the newspaper publishing business the original building was repurposed with several commercial offices and restaurants and a new residential tower was sited on the rear portion of the building.



Registered Site plan.

Purpose of the HIS:

This heritage impact statement is to accompany an **application for a PERMIT** from Heritage Victoria for alterations to a heritage registered place; in this case the Herald Sun skysign which is an integral part of the Heritage Place.

The application is to erect new revised signage illumination equipment to near exactly the same arrangement but in LED “rope” of approx. 5840 Kelvin (colour temperature) which is very near the existing colour of the glass Neon tubes. The colour of the neon tubes were professionally measured by Webb Australia at 5800 Kelvin. This difference between the new LED rope colour and the neon colour is very minor and is NOT perceptible.

The brightness of the new work is adjustable to match the existing neon tube work.

The application is based on a desire to reduce running and maintenance costs but cause the Letters to look identical to Neon tube-work at night time.

The application has in the latter part of this HIS some information on costs and savings of running this proposal.

Note:

LED Rope will refer to an acrylic tube which is illuminated by Light Emitting Diodes (LED). The tube is of similar dimensions to the neon glass tubes but are not exactly the same.

Neon will refer to the traditional glass tube which is filled with the rare gas Argon and is excited by electrodes causing it to glow. Using different gases cause different colours.

TWO Permit Exemption applications have previously been made in order to create this application and to test the proposed LED rope work. This first exemption (and tests 1 + 2) was for the letter **L** in the sign. Presently the proposal has in place the 3rd test arrangement (using the letter **R**) after the first two tests made since May 2023 were shown to be inappropriate as the letter **L** was incorrect in colour and brightness (too yellow). As part of the 2nd permit exemption (this present 3rd test), the adjacent letter **A** was regassed in neon as a comparison letter.

The 2nd test (of letter **L** under the first Permit Exemption) erected circa late July was closer to the original neon appearance in colour temperature and had less illumination so that the edges of the metal letters could be seen and not whited out by the brightness of the LED ropes being used. This test illumination was still overly bright by possibly by a factor of 10-15 % but was also of the wrong colour.

This 2nd test was not approved because of this notable colour variation and the brightness.

Currently erected is the 3rd variant test (under the 2nd Permit Exemption) via a different signage company (Major Graphics) using a different type of LED rope.

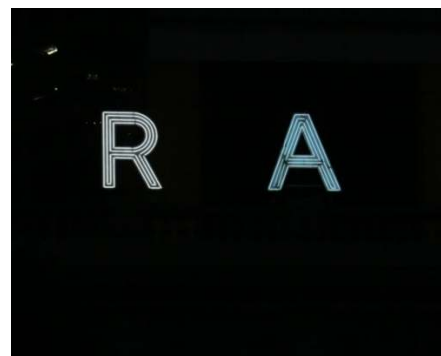
As a test arrangement Major Graphics refurbished the letter **A** in the sign and measured these regassed Neon tubes as illuminating at 6345Kelvin. Their new LED rope also erected as letter **R** has measured at 5840K. The **L** letter erected by Bentleigh Signs was in the range of 7600 Kelvin which once erected was obviously of the wrong colour.

The now proposed 5840 Kelvin LED rope is a lot closer in colour to the 6000K predicted normal Neon (argon) tube colour. Also when it was erected (as letter **R**) and noted on 20th December at 9pm, the colour appeared to be close to the letter **A** colour (the repaired Neon letter).

This test is shown in 2 pictures below: one to indicate colour and one to indicate brightness.



Colour Test illustration: Colour comparison to be made between LED rope and the repaired Neon Tube letter A. It is just apparent that letter R is very close in colour to letter A.



Brightness Test illustration: Brightness Comparison to be made with Neon letter A. LED Rope Letter R is slightly brighter but very close to Neon Tube letter A.

Statement of Significance for Herald Sun

The Herald Building is architecturally significant for its monumentality and neo classical styling, which combined with the roof-top neon signs and the twin radio towers, conveys an image of the power and dominance of the print media in the first half of the twentieth century.

In addition, the Conservation Management Plan which was prepared by Allom Lovell & Associates in 2005 recommends the preservation of the 'HERALD SUN' neon signage.

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Published Statement

The Herald and Weekly Times Building was constructed in stages between 1921 and 1928 to the designs of notable architects HW & FB Tompkins. The main building dominates the corner of Flinders and Exhibition Streets. The building is a five storey, concrete encased steel frame structure with a commercial, neo-classical facade of giant order Ionic pilasters on both major facades. Notable interior elements [extant at the time of registration but since removed with Heritage Victoria approval] include panelling and vacuum tube in the foyer area, the marble and terrazzo-lined front stairwell, the foyer, doors and panelled offices along the Flinders Street side. Notable external details include the bracketed lights at the base of each pier. The building was the home of the Herald, the Sun News-Pictorial, and the Herald-Sun. Other specialist publications have included the Sporting Globe, Home Beautiful and Who's Who. Victoria's leading country newspaper, the Weekly Times, was also based here. The Herald-Sun is a descendent of Victoria's oldest newspaper, the Port-Phillip Patriot, first published in 1840. In 1930 the steel radio tower was added for the radio station 3DB which broadcast from the building.

How is it significant? The Herald and Weekly Times Building is of historical and architectural significance to the State of Victoria.

Why is it significant? The Herald Building is historically significant for housing the publication of the Herald, the Sun News-Pictorial, and the Herald-Sun, which together have been the most popular Victorian newspapers since the 1920s. The building is also associated with the editorship and chairmanship of Sir Keith Murdoch, the most important newspaper figure in Australia in the inter-war period. The Herald Building is architecturally significant for its monumentality and neo classical styling, **which combined with the roof-top neon signs and the twin radio towers, conveys an image of the power and dominance of the print media in the first half of the twentieth century.** It is an early example of the commercial neo classical BeauxArts influenced idiom in Victoria.

Existing Condition

The skysign is in reasonable (albeit fading) condition as it was re-manufactured (folded box letters) less than 20 years ago when the original letters were stolen from a yard in Collingwood. There is no rusting in the sign and the support structure is not in decay. The sign remains illuminated using Neon Tubes but not all are presently operating and the gassing is becoming weaker in some of the tubes and the letters are not as bright as they should be due to slight gas losses over time. Overall

there are no present day issues with the signage apart from some tubes NOW requiring re-gassing. This work has been delayed due to the present day proposal being made. If this proposal is refused then the neon will be regassed and the sign again fully illuminated.

An update note: December 2023.

As part of these works the existing letter **R** is now showing illuminated in LED rope with the adjacent letter **A** reinstated as a re-gassed functioning NEON tube letter as a test for full illumination.

[H E R **A** L D]

*Letter **R** to be made in the new form of LED rope letter, Letter **A** is fully repaired as a neon letter, Letter **L** to remain as 2nd test letter but will eventually be removed and replaced.*

What is proposed in the long term

It is proposed to retain near unaffected, the sky-sign aligned on Flinders Street BUT remove **from** all the metal letters the Neon tubing and replace it with LED formed rope tubing this being an illuminated plastic tubing replicating the neon effect BUT with a colouring and brightness almost exactly as existing.

This lowers the electric running cost as well as the occasional Neon tube replacement and subsequent re-gassing costs. It has a determined longer life.

This is to be discussed in the application proper in a costing from the Common Property committee included here to address Section 101, (2) b of the Heritage Act 2017 viz the economic impacts related to a refusal of the application.

It is intended to form new cut out metal faces in Aluminium sheet (with a bonded white surface colour) and place these new faces as ‘clip on’ over the existing letters. Attached to this will be the new LED rope lighting strips (as per letter R). The existing neon tube letters are to be removed along with wiring and transformers.

This raises several issues:

1. The new over-faces (the “fascias”) will cover existing fabric. A further note in this document will be made about existing fabric which dates from the remaking 20 years ago.
2. Attached to the new fascias will be LED rope strips. These will be arranged in the exact some locations as the neon tubes.

The differences will be: Existing Neon tubes are 12mm diameter glass tubes standing possibly 40mm off the fascia.

The existing lit colour of most letters of the sign is whiteish has been professionally measured for Bentleigh Signs at 5800K which is close to the originally suspected 6000Kelvin for these (Argon) tubes.

Note: While the existing tube colour was measured for Bentleigh signs at 5800 Kelvin, this may vary slightly between tubes (although this is not perceivable). The higher the Kelvin number the “cooler” the colour will be a cold white temperature. This colour temperature

appears to be what is seen in a colour corrected photograph available on line from an image made 1971. In this image the letters are white neon (possibly from Argon gas mix which is electrically “excited” around 6000 Kelvin). The difference between 5800 and 6000K will be imperceptible except to a calibration meter.

The (recently) renewed letter ‘A’ in neon gas is illuminating (exhibiting) at 6354 Kelvin.

3. The new work will be installed and electrified at a lower running cost.
4. The new work requires some removal of existing equipment (ie internally placed wiring and transformers presently inside the individual letters) and some externally placed transformers on the rear side of the balcony concrete pillars although these will be substituted by a new transformer type at a lower voltage.
5. The new ‘rope’ work is 34mm high and 25mm wide which is wider than the original tube work. Close up (on street footpath opposite) the sign looks denser with the new rope work but at a distance from 100 – 150m away (and further) this is not at all evident. (see also drawing of Letter R model work)



Herald Sun at night (photographer Mark Strizic, 1971). Note: This photograph appears to be colour corrected with the sign appearing in a white (Argon) colour. While the illustration is not accurate it has been re-toned to a probable correct colour value by eye.

Note on Existing Fabric

It is known that the present sky sign is NOT ORIGINAL in any way apart from the metal support structure. The original sign was built circa 1932 by the Claude Neon Company but when removed for refurbishment circa 2000 period, the original letters were stolen from a yard storage in Collingwood / Abbotsford and the whole sign was remade from dimensions ascertained off the letters not stolen. This story is outlined in the book "Characters" by Stephen Banham p.195.

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The new (rebuilt) work was inspected for conformity at Bentleigh Group workshops in Keysborough to the approval of Heritage Victoria (HV staff person unknown) prior to re-erection.

From this we can ascertain that what is being replaced in a heritage sense is the effect visually of the letter sizing (unaffected) and the neon tubes and their sizing and to a greater extent their colour which will not be exactly the same in colour temperature.

The fabric will be the same apart from not having (neon) gas tubes.

Some prestige images were made of the building in 1932 and this is most likely because of the erection of the skysign. It was reported in the newspapers that "illumination engineers" inspected work at Claude Neon premises in mid 1932 to look at some skysign letters being prepared for the Herald Sun BUT this work may be for a sign to be erected on Young and Jacksons Hotel at Swanston and Flinders Street which has long been removed. However it is indicative of the dating that was occurring for the Herald management and the use and construction of Neon skysigns.

One possibility is that Herald Sun management was trialling the skysign in their old logo format and subsequently decided on the more modern sans serif form of lettering now seen on the Herald and Weekly Times building.



1930s photo-plate image showing the sign on the building (dated 1932), State Library Victoria (no photographer noted but possibly a Herald Sun Photographer). It is suspected that the image was made because of the skysign having been installed.

Other Factors

How will the work be done?

It is intended to construct ALUMINIUM scaffold over the outside face of the letters and this will also be on the outside face of the building as the letters are not set back on the roof but rather in alignment with the main face of the building with the scaffold attached to the substantial cement baluster railing.

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[Job2022-17, Neon electric sky-sign at Herald and Weekly Times \(Herald Sun\) building.](#)

The scaffold will stand on the large cement cornice on the outboard side of the building's railings. There will be little scaffold on the actual roof of the building which is covered in a torch-on waterproofer asphalt. Possibly the only elements placed on the flat part of the roof will be portable ladders accessing the outboard scaffold and some inboard legs of the scaffold although most weight is on the outer portion.

The outboard scaffold only needs to be in place over each letter for a very short period (possibly 2 days) in order to:

strip off existing tubes

attach the new clip on fascia in the shape of each letter over the letter and rivet the new fascia to the sides of the existing letter boxes

attach the neon LED tubes and to carry the wiring elements into the body of the letter and thread it out through the back to the new installed transformers. No wiring will be visible on the outboard side. The present wiring is also near invisible as it is also threaded through the letters.

Heritage Act 2017 Considerations S.101 determinations

101 Determination of permit applications (relevant issues bolded)

- (1) After considering an application the Executive Director may—
 - (a) approve the application and—
 - (i) issue the permit for the proposed works or activities; or
 - (ii) issue the permit for some of the proposed works or activities specified in the application; or
 - (b) refuse the application.
- (2) In determining whether to approve an application for a permit, the Executive Director must consider the following—
 - (a) the extent to which the application, if approved, would affect the cultural heritage significance of the registered place or registered object;**
 - (b) the extent to which the application, if refused, would affect the reasonable or economic use of the registered place or registered object;**
 - (c) any submissions made under section 95 or 100;**
 - (d) if the applicant is a public authority, the extent to which the application, if refused, would unreasonably detrimentally affect the ability of the public authority to perform a statutory duty specified in the application;
 - (e) if the application relates to a listed place or to a registered place or registered object in a World Heritage Environs Area, the extent to which the application, if approved, would affect—
 - (i) the world heritage values of the listed place; or
 - (ii) any relevant Approved World Heritage Strategy Plan;

(f) any matters relating to the protection and conservation of the registered place or registered object that the Executive Director considers relevant.

(3) In determining whether to approve an application for a permit, the Executive Director may consider—

(a) the extent to which the application, if approved, would affect the cultural heritage significance of any adjacent or neighbouring property that is—

(i) included in the Heritage Register; or

(ii) subject to a heritage requirement or control in the relevant planning scheme; or

(b) any other relevant matter.

Effect on Significance S.101 (2) (a)

The sign will remain illuminated as a prominent sky sign on its original building. This is a large element of its significance and will not be changed. The application is also intending not to change its appearance by causing the illumination to be of a different colour or brightness. At night the change to LED Rope will not be obvious. Tests and photographs have been made to determine that this outcome will be near impossible to distinguish from the original Neon appearance.

The illumination tubes will change from the traditional Argon gas tubes to a LED acrylic rope of similar dimensions. The rope looks very similar to the gas tubes (albeit translucent) and is of a slightly larger dimension. With the illumination turned off (during daylight hours) and from a distance eg from 100m and further away the sign looks no different. From the street footpath opposite it is possible to notice a change without it being obvious what that change is.

With the LED illumination turned on, it is not obvious what the change is.

Overall, there is a change to the tradition of using neon glass tubes for illumination to using translucent slightly larger acrylic tubes but this change is almost undetectable even from a short distance.

Related Matters

There are no related matters affecting the heritage place as a consequence of this work. The method by which the work will be done will be to erect scaffold on the outer edge of the building and this has little impact on the main roof's waterproofing skin or the large cement cornice gutter in which the scaffold partially stands. No large weights are transferred onto this scaffold in any case.

No other Local or State listed Heritage places are affected by this change to the signage.

Cost Implications as supplied by the Owners Committee S.101 (2) (b)

The number of transformers for each letter will be fewer and the maintenance costs lower

The running costs will be lower being at a lower amperage and voltage.

The Costs for electricity are difficult to fully obtain as these are carried in the common accounts of consumer electricity for the sign and all other forms of lighting and general outlets in the OC controlled area No 1.

Information Provided pursuant to S. 101 (2) (b) Heritage Act 2017

One of the matters in the published policy related to this aspect is

19. The Executive Director may consider whether the proposed works would facilitate an economically sustainable use of the registered place or object. An economically sustainable use could be one that can continue for the medium to long term, mitigating the possibility of continual proposed changes to the registered place or object.

There are no continual proposed changes relevant here but this proposition relates to the decline in the commonality and manufacture of gas tube neon illumination – while some manufacturers remain, their number and the skill required to manufacture this type of sign are in decline. Associated with this is the cost of electricity to power gas tube neon illumination and everywhere the use of LED as a light source has been rapidly advancing since 2010. LED lighting was known in the early 1960s but it was only in the last decade that energy efficient LED lighting had a major breakthrough and now the use of this lighting form is everywhere.

The new type of lighting will have a major impact on running and maintenance costs although the actual running costs are difficult to quantify without a longer term trial. Indeed this would be one site to hold a long term trial on running costs as it is one of the few large scale “spectaculars” to remain in Melbourne.

Costs invoiced to OC for last 3 years for Neon Tube Maintenance are:

Inv 15659 – 21/01/2019 \$380.00

Inv 15661 - 22/01/2019 \$742.00

Inv 15748 – 20/03/2019 \$2960.00

Total 2019: \$4082

Inv 16374 – 28/02/2020 \$2305.00

Inv 16443 – 30/04/2020 \$390.00

Inv 16645 – 29/10/2020 - \$630.00

Total 2020: \$3325

Inv 16829 23/02/2021 - \$2,850.00

Inv 17088 - 19/08/2021 - \$4785.00

Total 2021: \$7635

Inv 17251 – 28/01/2022 \$5,381.00

Total: 2022 \$5381

Electricity Consumption

GPT arranged a load test – results are below

- Annual Saving of 8,311.15 kWh
- Annual Saving of \$ 7,480.03 Power

Summary of Overall Effect:

It is expected that the annual maintenance cost will be radically lowered by the use of LED Rope. In 3 years the cost of maintenance was \$15,000 and it is expected that this will virtually fall to some maintenance of transformers only possibly <\$1000/annum.

It is expected that the power saving will also fall radically from an estimate of \$7,500 to < \$500/annum.

APPENDIX A: Colour Temp + LED Rope lighting

The existing argon neon tube is Cool white- blueish as created by the electrically excited gas. The tubes are approx. 15mm dia. Standing approx. 15mm off the letter face

The NEW colour temperature should be Cool White ie 6000K approx..

Colour Temperature	Examples
1700K	Match flame, low-pressure sodium lamps (orange streetlights)
1850K	A candle flame, sunset & sunrise
2400K	Standard incandescent or filament lamps
2700K	Soft white compact fluorescent and LED lamps
3000K	Warm white compact fluorescent and LED globes
4000K	Neutral white or cool white fluorescent tubes
5000K	Horizon daylight
5500 – 6000K	Vertical daylight, electronic flash (EXISTING NEON at approx. 6000K)
6500K	Cool daylight fluorescent tubes, overcast

Note: terminology and actual correlated colour temperature vary extensively. Examples modified from [Wikipedia](#).

APPENDIX B : Colour Issues

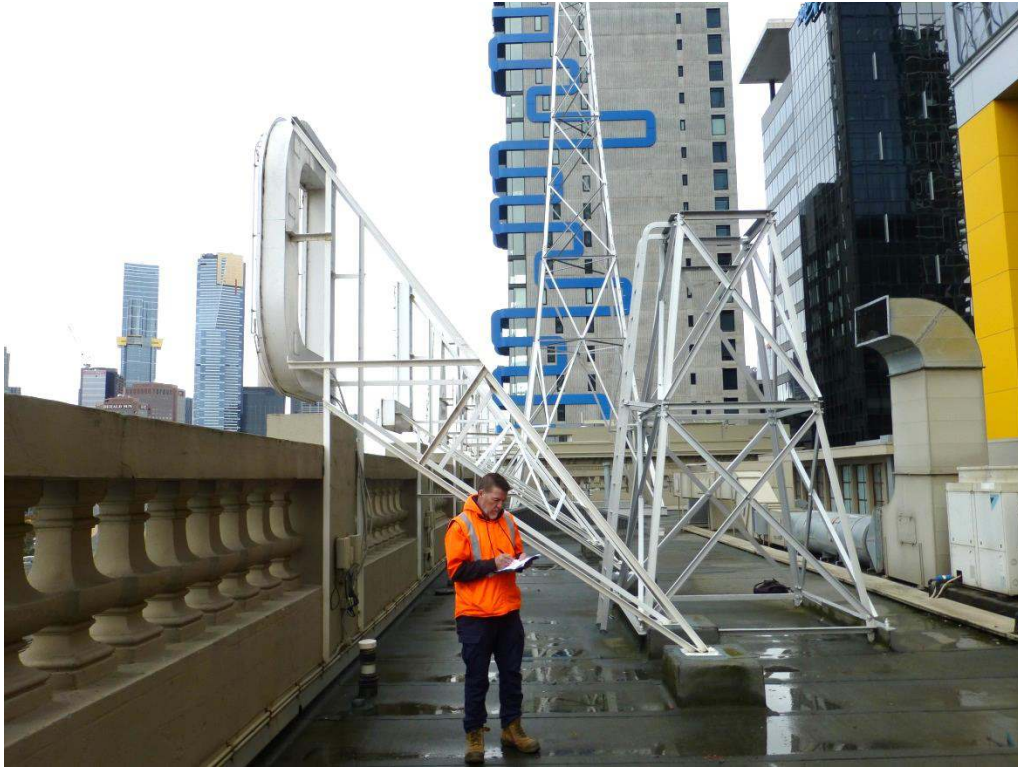
Issue	Letter	Notes
1st test (1 st PEExemption)	Letter L (Bentleigh signs)	Wrong colour + brightness issues (rejected and since removed)
2 nd test (1 st PE)	Letter L (Bentleigh Signs)	Ditto (rejected) (at 7600K colour and still on sign)
3 rd test (2 nd PE)	Letter R (Major Graphics)	Close to colour but slightly over bright. (possibly even as correct as could be expected).
Colour	Existing Neon Letters	Professionally Measured by lighting engineer for Bentleigh as exhibiting at 5800K PManiatopoulos@webbaustralia.com.au
Colour	Letter L (2 nd LED rope test)	Professionally Measured for Bentleigh as exhibiting at 7600K
Colour	Letter A refurbished Neon tube as comparator for letter R (3 rd test)	Measured by Major Graphics as being refurbished neon tubes exhibiting at 6354K
Colour	Letter R (3 rd test, LED rope)	Measured by Major Graphics as being 5840K which is very close to existing neon (H, E, D) measured by Webb Australia at 5800K.



Letter edge: the new fascia will be clipped over the existing: it is proposed to remove the neon tubes



Rear side of letter and support structure in steel. What can be seen in this illustration will all remain



Roof top of Herald Sun Building showing letters and support structure: note that the face of the letter is showing at the building edge, scaffold will be built up attached to the substantive cement balcony railing: There will be no change to the letters or support structure as seen in this illustration



Letters L & D seen from Flinders Street Letters L + D with red circles indicating inlets in the letter boxes where wiring is presently taken through to internal transformers which convert the electric current into a higher voltage



Herald Sun building (1932) – from State Library collection. The letters and aerials to remain, a new building has been constructed on the back of this concrete frame building. See also its matching image on page 7.



Existing Neon gas letters: H, E,& D (E not fully functioning)

New LED rope letters R (major Graphics), L (Bentleigh Signs) L has been rejected as wrong colouring. New Neon letter A which is exhibiting at a higher Kelvin than H, E + D.



H, E, D neon tube letters, R is proposal and A is renewed Neon gas letter (L is rejected Bentleigh Signs letter)

END

Revised 27 Jan 2024

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