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Ref: 22035

24th October 2022

Brett Hutton
JCDecaux
Unit 2-3, 182-190 Euston Rd,
Alexandria NSW 2015

RE: Parramatta Rd, West Granville, NSW
Supersite LED screen, Structural Feasibility Statement

This Structural Feasibility Statement has been conducted by Dennis Bunt Consulting Engineers Pty Ltd (DBCE) at the request of JCDecaux.

The proposed signs are documented in the DA drawings by DBCE 22035 / DA01(B) and DA02(C).

A survey of the sites was commissioned by JCDecaux.

There is an existing Supersite backlit sign that will removed and replaced with a new LED Supersite sign. The visual screen dimensions of the LED sign will be 12480mm horizontally x 3200mm vertically. The sign will be fixed to the side of an existing railway bridge located over Parramatta Rd, West Granville.

Site Description

The existing railway bridge that will support the LED sign is a concrete bridge. The main girders of the bridge are approximately 3200mm deep and post tensioned.
The existing backlit box will be removed by crane during a road closure, most likely at night.
The existing support frame will remain and be modified if required to support a new LED screen box.
The LED steel box will have an internal walkway so the rear of the LED screen can be accessed for maintenance without affecting the traffic below. There will be a hatch in the top

of the box and an internal ladder, the hatch will be accessed from the deck of the railway bridge.
There is an existing platform that was used to access the backlit box and will be reused to access the hatch in the LED box.
Access will be done under the supervision of a protection officer and most likely at night when the trains are not running.

Structural Description

The structure will consist of a fully welded three-dimensional (3D) steel box.
The existing support frame for the backlit box will be reused. The frame and its anchors to the bridge will need to be checked and modified/strengthened if required.
Existing or new horizontal rails (if required) will be fixed to the support frames.
Z brackets fixed to the back of the 3D box slot over the top of the rails when the 3D box and LED screen are lifted into position by crane and are screw fixed to the rails at each end.

The LED screens will be assembled in the contractor's factory and clamped to the welded 3D box so it can be transported to site as one unit.

The existing bridge will need to be checked for the extra weight of the LED sign and its support structure in combination with the existing dead loads from the bridge and live loads from the trains.

The weight of the digital screen, 3D steel box, cladding and support structure is approximately 6 tonnes. The LED sign box will be approximately 2 tonnes heavier than the backlit sign box.

Compared to the loads on the main girder of the bridge from the dead load of the bridge and the live loads from the trains the extra vertical load from the sign box will be approximately 1 to 3 % of the total load.

The sign is to be designed for a wind load for region A, terrain category 2.5 and a 50 year design life in accordance with AS1170.2. The height of the sign and structure is approximately the same as that of the main girder so the overall wind load on the bridge will be no greater due to the addition of the sign.

Recommendations

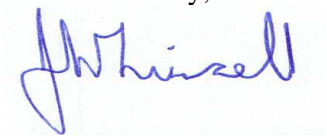
Based on the survey and our preliminary design we see no reason why the new LED screen cannot be installed.

The bridge will need to be fully checked for the additional loads from the sign.

The bridges structural drawings will need to be reviewed by the structural engineer to check the capacity of the bridge and ensure any new post fixed anchors (if required) are located away from the girders post tensioned ducts.

If you have any questions, please do not hesitate to ring the undersigned on 9451 7757

Yours Faithfully,



John Linsell BE(Hons), MIEAust, CPEng, NPER(Struct)
for Dennis Bunt Consulting Engineers Pty Ltd