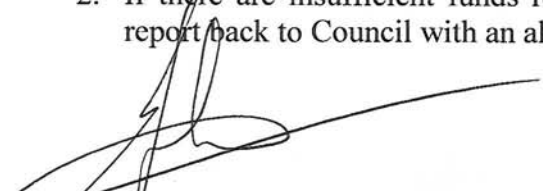




**To:** Public Works and Transportation Committee    **Date:** December 31, 2008  
**From:** Greg Scott, P. Eng., LEED A.P.    **File:** 10-6525-07-03/Vol 01  
Director, Major Projects  
**Re:** Canada Line/No. 3 Road Restoration - Special Effect Lighting Update



**Staff Recommendation**

1. Special effect lighting of the Canada Line elevated guideway be implemented along No. 3 Road, north of the Canada Line – Lansdowne Station, between Alderbridge Way and the Lansdowne Mall Entry Road adhering to the design criteria as outlined in the attached report, subject to sufficient funds remaining after the No. 3 Road Restoration Project has been completed.
2. If there are insufficient funds remaining from the restoration of No. 3 Road, staff will report back to Council with an alternate funding strategy for consideration.



Greg Scott, P. Eng., LEED A.P.  
Director, Major Projects  
(604-276-4372)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY					
ROUTED TO:		CONCURRENCE		CONCURRENCE OF GENERAL MANAGER	
Transportation.....	Y	<input checked="" type="checkbox"/>	N		
Finance.....	Y	<input checked="" type="checkbox"/>	N		
REVIEWED BY TAG		YES	NO	REVIEWED BY CAO	
		<input checked="" type="checkbox"/>	<input type="checkbox"/>		

## Staff Report

### Origin

Richmond City Council endorsed the No. 3 Road streetscape design and the \$24M cost estimate on June 25, 2007 excluding alternative and supplemental enhancements. However, Council expressed interest in special effect lighting of the Canada Line elevated guideway and directed staff to investigate. Staff have subsequently conducted 2 tests to demonstrate possible special effect lighting alternatives and reported to Public Works and Transportation Committee on April 23, 2008. A third test was requested to correct deficiencies and to fine tune the special effect lighting treatment and the purpose of this report is to present the final results.

### Analysis

Staff has been working with Lightworks, a designer/supplier of performance lighting solutions to develop and test possible special effect lighting treatments of the elevated guideway. Three demonstrations of the special effect lighting have now been conducted (i.e. November 2007, April 2008 and most recently October 21 to November 4, 2008). A news release and notice in the local papers preceded each demonstration period. Several special effect lighting configurations have been tested and to date a low number of public responses have been received (13 in favour and 5 opposed). Public concerns raised include driver distraction, light pollution, aesthetic and cost. The demonstrations have been valuable, providing incremental improvements in performance and to resolve a few unanticipated results. Staff are now satisfied with the test results from the latest demonstration that would include 3 integrated special effect lighting components:

Component 1 – Top of the Column (to illuminate the gap between column and guideway);

Component 2 – Underside of the Elevated Guideway (to colour wash the elevated guideway); and

Component 3 – Static Gobo Lights (to project light images onto the sidewalk – not demonstrated).

See attached images from special effect lighting demonstration 3 (October 21 to November 4).

The restoration of No. 3 Road includes underground conduit to all guideway columns for future electrical service but excludes electrical power supply to the columns. This approach will permit installation of special effect lighting if Council wishes with minimal reconstruction impacts. The proposed location for special effect lighting is that portion of No. 3 Road immediately north of the Lansdowne Station (between Alderbridge Way and the Lansdowne Mall Entry Road).

Special effect lighting in this location would have the least impact on traffic and create minimal distraction to drivers. In addition, this zone has been purposefully designed as a flexible, street-side public plaza capable of hosting a variety of civic celebrations and festivities such as farmer's markets, weekend bazaars and seasonal festivals. In order to ensure that roadway safety is not compromised, it is recommended that the following design criteria be adhered to should special lighting be provided along the Canada Line guideway:

1. The special lighting shall not operate as strobe or fast-flash nor include the colour of red, amber/yellow/orange, green, or white which are used by traffic control devices;
2. The placement of the special lighting shall not be in the proximity of intersections causing distraction to road users; and
3. No special lighting shall be oriented directly towards the vision of motorists and cyclists.

The current proposed special lighting adheres to the above design criteria.



The proposed special effect lighting zone is long enough (i.e. 180m - 590 feet) to create a legible but not overwhelming night lighting effect.

The anticipated cost for the above special effect lighting treatment is \$228,000.00.

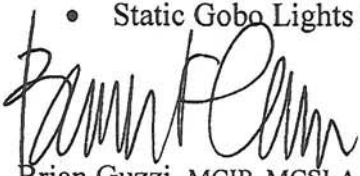
### **Financial Impact**

From the inception of the idea, the cost of special effect lighting has been identified as an unfunded streetscape enhancement. Provided that Richmond City Council supports special effect lighting, the cost could be funded partially or wholly from any savings realized from the No. 3 Road Restoration Project. Projections for the No. 3 Road Restoration Project indicate that there may be savings of approximately \$130,000.00 but it is hoped that there will be sufficient savings to fund the proposed special effect lighting program. If sufficient savings are not realized from the No. 3 Road Restoration Project, staff will report back to Council with an alternate funding strategy.

### **Conclusion**

Subject to the availability of savings from the No. 3 Road Restoration Project, staff supports the proposed special effect lighting program on 6 guideway columns along No. 3 Road between the Lansdowne Mall Entry Road to Alderbridge Way, which would include the following components:

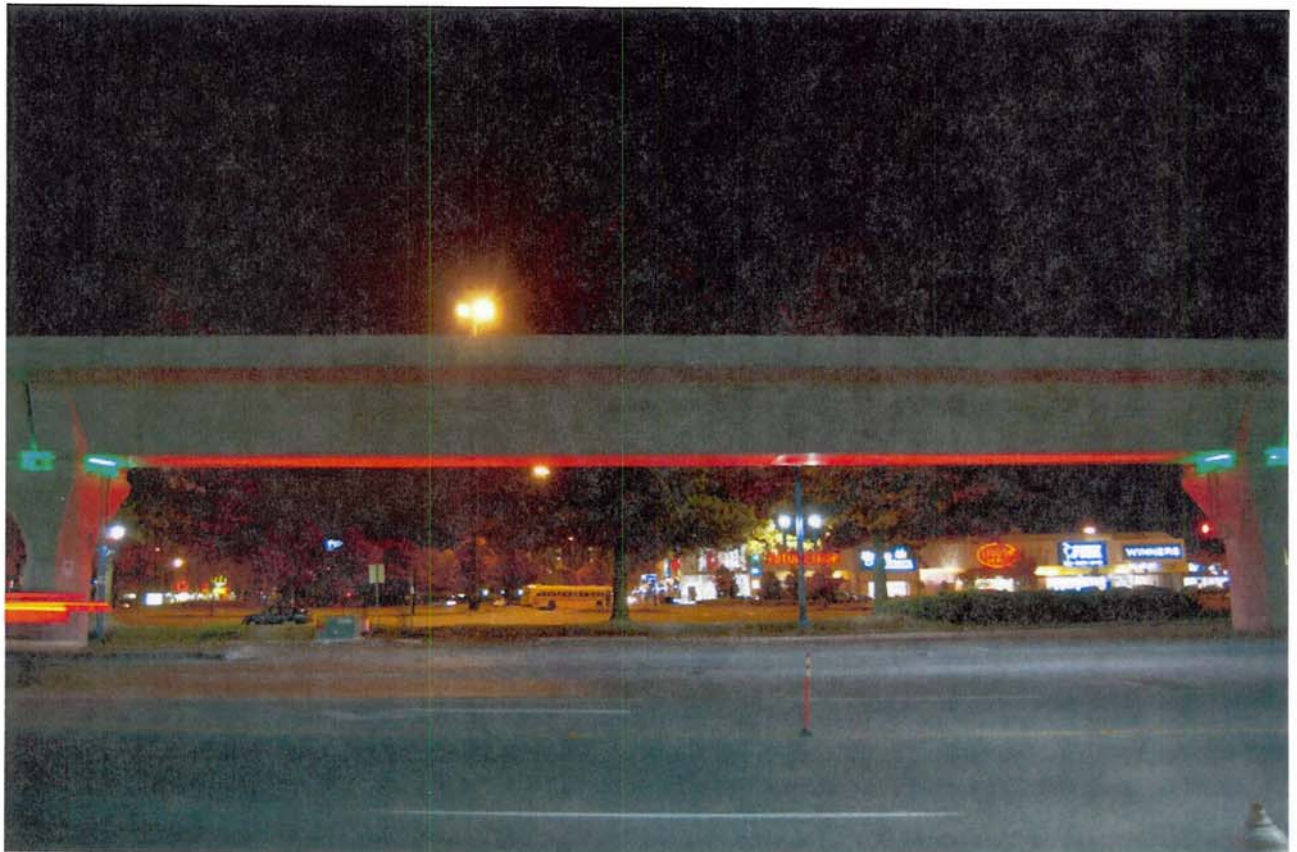
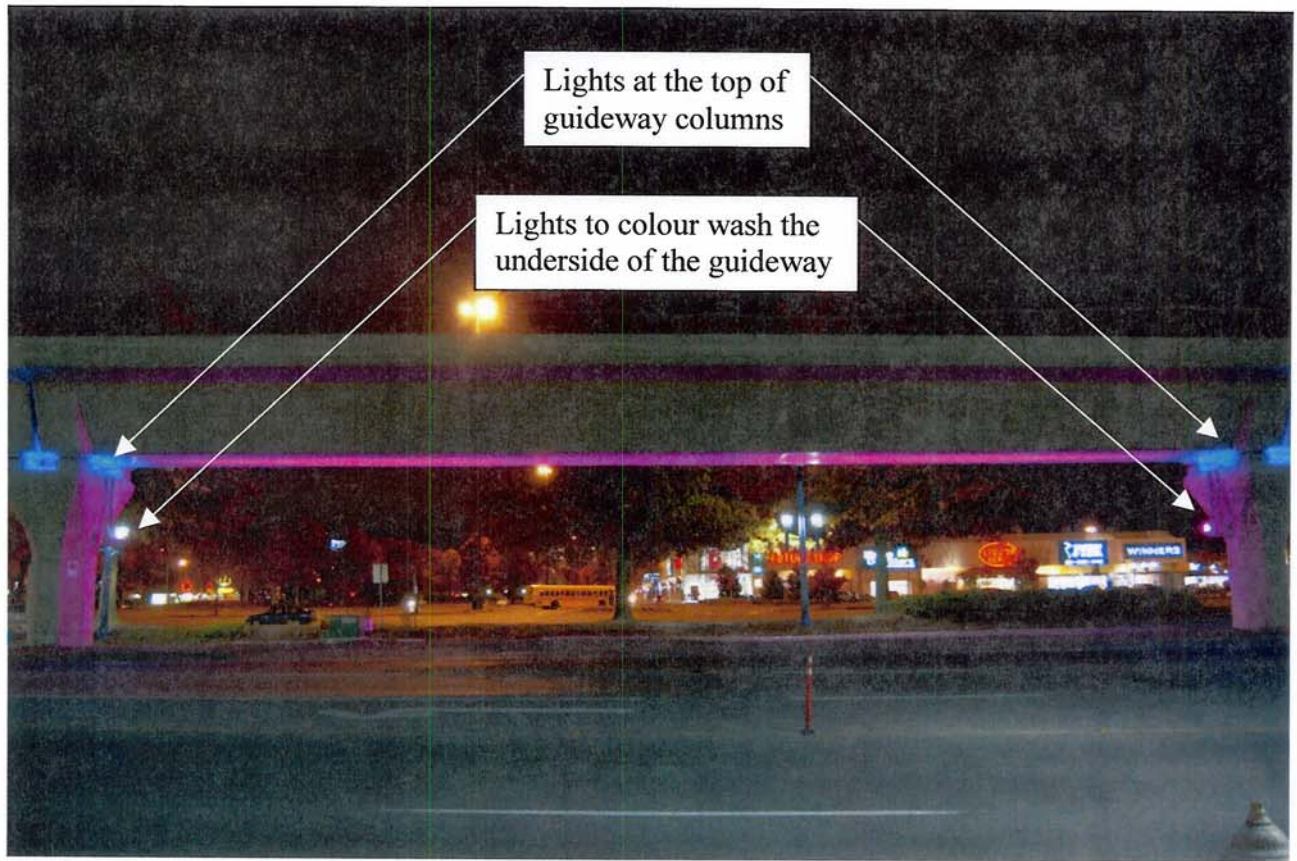
- Top of the Column Lights (to illuminate the gap between column and guideway);
- Lights on the Underside of the Elevated Guideway (to colour wash the elevated guideway); and
- Static Gobo Lights (to project light images onto the sidewalk).



Brian Guzzi, MCIP, MCSLA  
Urban Design Coordinator  
(604-276-4393)

BG:bg

Attachment 1: Proposed Special Effect Lighting (Alderbridge Way to Lansdowne Mall Entry Road)





Gobo Projection Lights:

The following are examples of images projected onto any surface (i.e. sidewalk ground plane).

Color & Beam Effects



Logos

