

**Royal astronomical Society of Canada - Windsor Centre**  
***Light Pollution Abatement Director's Report - February, 2013***

**Comber truck stop lighting**

Mike Mastronardi reports that Stantec has given official word to Lakeshore that the problematic lights Dave Panton has been spearheading, are not full cut-off. This is a significant step in the effort to correct this situation.

**Town of Essex**

I wrote to the town of Essex regarding an announced street-scaping plan asking that full cut-off lighting be installed. Their reply was affirmative.

**Highway 3, Phase 3**

Greg Mockler received a letter from Dillon consulting in response to my request for full cut-off lighting for the next and last phase of the highway 3 widening project.

Essentially it is their intent to absolve themselves of the prior practise of incorporating full cut-off light in their design requirements. I drafted and sent a response to the Ministry of Transportation and senior Dillon Managers (see letter below).

**County of Essex, rural intersection lamping program**

Paul Pratt reports no response from the county warden regarding a letter he sent in early December (see January report).

Owing to this and previously reported snubs, I contacted Nelson Santos, Kingsville mayor about the issue. He suggested applying to get delegation status for a County of Essex council meeting and present the issue. I applied and have been accepted for presentation at their March 6th meeting.

Dan Taylor

***Letter regarding Highway 3, Phase 3...***

Ms. Smolders,

Thank you for your surface letter of January 23, 2013 (copied below). I will be looking forward to reviewing the forthcoming Transportation Environmental Study Report.

I am confused though, by the content of your letter on several points. It would appear that you are indicating that full cut-off(FCO) illumination may not be used for this phase.

To begin, it is baffling to those of us promoting environmentally friendly lighting including engineers, scientist, and researchers, how the claim of 2% uplight or any such amount is a benefit to the motoring public.

Never-the-less, I share the contention that it is no longer 'typical' that FCO luminaires require closer pole spacing. Presuming this is in relation to the Illuminating Engineering Societies recommended practices, there are many FCO luminaires that meet and even exceed these levels. Hence, it is surprising that the Ministry is apparently not keeping up to date with advances in luminaire design. I personally have noted that the very dated and inefficient American Electric Roadway 125 series is commonly seen over provincial roads.

One example I've learned of that meets RP8 are the Durastar 2 and 3000 flat glass units.

Regardless, we are well aware of the pole spacing argument. It has been in existence for some time and is based on FCO photo metrics determined when the IES first commissioned the FCO design. Curiously, the concept was intended as a glare reduction technique to improve driver visibility and hence road safety. The contention about spacing though has been shown to be no longer valid. Further, to my knowledge, nowhere has it been conclusively shown that pole spacing, for illumination purposes is a safety issue – however maintenance of installations most certainly is.

The Transpiration Association of Canada endorses FCO illumination especially in rural environments (Guide to Illumination of Isolated Rural Intersections, section 3.1), and warranting is also recommended.

The Illuminating Engineering Society of North America endorses FCO illumination.

At the recent Illuminating Engineering Society of North America roadway street lighting committee meeting last March, I ran into Mr. Martin Aitkenhead (MTO) who in conversation, indicated that it is ministry policy to harmonize lighting schemes with those of a given region. As all communities in Essex County use FCO fixtures this should oblige the MTO to act accordingly.

Finally if the above isn't sufficient, at the November PIC GWP 317-98-00 meeting I met and spoke to Mr. Matthews, project manager, who verbally acknowledge that FCO lighting would be installed for this phase of the project, which is in accord with the prior phases.

Could you please clarify as to why there is an apparent renegeing of the FCO commitment? Additionally, can it be verified whether warrant exercises will be undertaken for the various intersections?

The Royal Astronomical Society of Canada continues to advocate for environmentally responsible lighting via FCO fixtures and in adherence with current recognized road lighting design authorities.

Thank You.

Sincerely,

Dan Taylor, Light Pollution Abatement Director, Royal Astronomical Society of Canada- Windsor Centre

CC Rick Marion, President, Royal Astronomical Society of Canada- Windsor Centre

Robert Dick, Chair, National Light Pollution Abatement Committee, Royal Astronomical Society of Canada

Greg Mockler Treasurer, Royal Astronomical Society of Canada- Windsor Centre

Martin Aitkenhead, Head, Electrical Engineering Section, (MTO)

*and the original note from Ms. Smolders...*

January 23,2013

Royal Astronomical Society of Canada Windsor Centre  
1508 Greenwood Road Kingsville, Ontario N9Y 2V7  
Attention: Mr. Dan Taylor Light Pollution Abatement Director  
Ministry of Transportation, Ontario Highway 3 Improvements, Town of Essex GWP 317-98-00

Dear Mr. Taylor:

Thank you for your letter concerning dark sky friendly lighting.

In general, the Ministry's recommended design practice is to limit luminaire up light above the horizontal to 2% of total luminaire output. The primary objective of highway lighting is to improve safety. The Ministry endeavours to achieve this objective in a cost effective and energy efficient manner, while considering local needs. For example, the Ministry has used shielding to control the uplight of highway luminaires in the vicinity of observatories.

Highway lighting systems using luminaires that emit zero uplight typically require closer spacing of the lighting poles, resulting in increased costs and energy consumption. Therefore, the use of these luminaires is considered on a site-specific basis, considering local light pollution concerns and impacts on energy and system costs.

Proposed illumination will be described in the Transportation Environmental Study Report (TESR) A notice will be sent to you regarding the availability of the TESR Addendum for review

Janet Smolders, MCIP for Jeff Matthews, P.Eng. Project Manager

JMS:jpa

cc: Kevin DeVos, MTO James Corcoran, MTO

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