

## **Note to File**

### **Rainline Pavement Marking**

Highway 2:60 & 2:62 (Peace River)  
Evaluated on September 5 & 6, 2007

#### **Existing Pavement Observations**

On the afternoon of September 5, 2007 the Rainline marking crew was mobilized on the Peace River Hill to apply the Rainline markings. The temperature was 15<sup>0</sup>C with mostly cloudy conditions.

The pavement surface is seal coated which made milling more difficult and slower for the crew. The crew made several attempts at establishing the proper depth of milling on the seal coat surface. The depth of the milling on seal coat surface is greater than normal asphalt pavement; this will require more material than what was estimated for this project.

For a proper bond of the Rainline product it is important to mill through the seal coat emulsion (CRS-2). As can be seen by the following photographs not all of the emulsion is removed during the milling process. This may cause a bonding problem with the Rainline product. At the Pats Creek overpass a double seal coat was used, this will create a definite bonding problem with the Rainline marking (see photographs). Another common problem for seal coat pavements is that the rock chips become dislodged over time; this could create a bonding problem of the marking to the substrate which could affect its performance over time.

#### **Application of the Rainline Marking**

The white edge line on the SBL was milled first to establish the proper depth of milling for the seal coat pavement. The milling operation was observed to be slower than what it would be on normal asphalt pavement. There appeared to be a few areas where the seal coat has failed, this may cause poor bonding of the Rainline product.

The milling of the double seal coat at Pats Creek overpass was not very smooth; there is a lot of emulsion remaining which will not bond very well to the Rainline marking (see photographs). The application of the Rainline product looks mostly smooth; some areas appeared wavy due to uneven pavement.

Overall the pavement edge of the milled out line appears to be smooth with only a few jagged areas. The majority of the milled out line has some emulsion remaining. The adhesion of the Rainline product may be a problem at some locations, time will tell.

The ideal application of the Rainline product would be on normal asphalt pavement. However this will be a good test on how it performs on seal coat pavement.

## Initial Retroreflectivity Readings

Initial retroreflective readings were taken at the following locations:

SBL, S. of Pats Creek overpass – White line – average retro-reflectivity – 323 milicandelas

On Ramp traveling south – White line – average retro-reflectivity – 454 milicandelas  
- Yellow line – average retro-reflectivity – 271 milicandelas

The glass bead distribution for the white line was adjusted as can be seen with the higher initial retro-reflectivity on the On-Ramp.

## Photographs



Milled edge line



Close-up, jagged edge of seal coat



Emulsion present, may create a poor bond

Double seal coat on bridge, edge failure



Milling equipment



Measuring depth of mill





Application of Rainline



Measurement tool

## Conclusion

On chip seal surfaces the milling requires extra effort and due to a deeper groove more material is required. There may be some bond issues in areas that had an overlap of the seal coat such as the skip lines. The skip lines required a deeper milled section which required addition Rainline material.

## Recommendations

There is a need to develop a strategy on the use of durable markings on seal coat surfaces.

Monitor the performance of the Rainline marking after the winter season.

The manufacturer will provide recommendations on a process of applying Rainline to seal coated surfaces to ensure success on these types of road surfaces.

Joe Filice

cc: Roger Skirrow (AIT)  
Bill Gish (AIT)  
Bill Kenny (AIT)  
Ted Harrison (EXH)  
Paul Binotto (Astrographic Industries Ltd)