Asphalt Laydown Technician Training Summary Report

Tom Gamblin, Industrial Learning Resources Ltd.

April 27th, 2019

Introduction

Asphalt Laydown Technician Program was sponsored by the *Nova Scotia Road Builder Association* in partnership with *Toromont Caterpillar.* The program was a four-week program from March 18 thru April 12, 2019. The weather provided a challenge during Cat Week. A new learning objective, *"participants shall be able to demonstrate techiques to stay warm and laydown asphalt in snowy conditions"* was successfully added to the program

"I didn't think there was much to know about paving, and I came for the paycheck, but I learned so much about paving and realize there is more to it than I thought."

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Training took place at Wilson's Equipment, Truro, NS and Toromont Cat in Dartmouth, NS. Thank you to the people at Wilson's Equipment and Toromont for the hospitality and the "swag".

The "field trip" this year was to the asphalt plant at Will-Kar Paving in Truro, NS.

This year we enjoyed catering from the Holiday Inn in Truro. The food was so good, Howard and I were not sure if the participants came for the training or for the food. Either way we felt the participants would "gain" from the experience.

Participants

Fifteen participants representing eight companies participated in the training program of 120 hours. Participants represented a variety of experience in the paving industry, including construction supervisor, paver operators, roller operators, grade specialist, screed operators, and quality control. Participants represented backgrounds in highway and commercial paving. The participants brought over 230 years of experience in heavy equipment, asphalt paving and supervision to the success of the training.

Company	ALT Technician
Basin	Chris Robinson
Chapman	Cory Cormier
	Mark MacMillian
Cumberland	Ryan Furlotte
Dexter	Chris MacKenzie
	Darren Pugsley
	Rodney Rector
	Matthew Wood
Northern	Mathew Morrison
	Cody Roland
Nova	Daniel Campbell
	Greg LeBlanc
S. W. Weeks	Allan Martin
Will-Kare	Brett Lynds
	Darren Lynds

Facilitators/Trainers

The following facilitated the training for the Asphalt Laydown Technician program:

Tom Gamblin	Industrial Learning Resources Inc.
Howard Chandler	Dexter
Marcello Lirusso	Caterpillar of Canada
David Peterson	Caterpillar USA
Luke Heilman	Weiler

Contributors

Thank you to the following for their support and contribution to the success of the ALT training:

Mark Kozlowski	Wilson Equipment
Peter Sonier	Toromont
Mat Ferguson	Toromont
Allison Deveaux	Toromont Cat
Kimberly Malley	Toromont Cat
Robert Halfpenney	Toromont Cat, Loader Operator
Evan Redmond	Will-Kar Asphalt Plant

Participant Feedback

The following are examples of some of the feedback received from the course participants:

“I didn’t think there was much to know about paving, and I came for the paycheck, but I learned so much about paving and realize there is more to it than I thought.”

“We are on a smoke break and still talking about stuff from class.”

“Having discussions with members from different companies helped me with learning about different ways to do things”

This course will give me more confidence when telling experienced guys how we should do things.”

“Overall great course. Food was great too.”

“Enjoyed the training and getting to learn from and talk with others in the class.”

“Never thought I could do school classroom again, but the way it was taught made it easy for me. Wish I knew mind mapping before.”

“Very good course. I would recommend it to all employers to send their workers for training.”

“Was a great course. Learned a lot. It is a course every paving person should have.”

“Great course, great instructors, and great food.”

The following is feedback relating to the two questions

- What information you find most variable in this training?
- What information from this training will change the way you do things on the job?

“Learning about avoiding and detecting mat defects and how to correct them.”

“Learning how to be more consistent and efficient and get things done without unnecessary hand work.”

“Using automatics, paving by the numbers, screed setup and how to make necessary adjustments while paving”

“Knowing the causes of segregation and how to trouble shoot if it happens.”

“The math we went over and using formulas are going to be very helpful.”

“Every bit of information I’ve learned will adjust how I do my job. From paving by the numbers to roller patterns.”

“Also, for being a supervisor in grading, I now know that the quality of asphalt depends on the base under it.”

“Learning what is expected of me as a supervisor from pre-planning to the safety of fellow employees on site.”

“I would hope for a grading course ran as well as this asphalt course I’ve been on.”

“The most valuable information is how to adjust the screed if needed and how to watch for mat defects. Also, a better understanding of the floating screed and the forces that make it work.”

“Better communication and paving by the numbers will definitely help me be a better paver.”

“All of it will be useful because before this course I had next to no knowledge of paving.”

“I will take back the importance of teamwork and communication.”

“I learned a lot of new techniques that we don’t currently use. Better rolling techniques, paving by the numbers and the mathematics.”

“I am more knowledgeable and will be able to help out in various situations paving.”

Training Evaluation

Maximum total score = 56 Maximum Average Score = 4

Area	
Meeting your expectations	3.93/4
Level of instruction	3.93/4
Length of presentation	3.53/4
Usefulness of participant guide	3.90/4
Effectiveness of visual aids (PPt, etc.)	3.87/4
Effectiveness of learning activities (discussions, group work, reflections, mind mapping)	3.60/4
Overall effectiveness of the training presentation	3.87/4

Facilitators Evaluation - Tom and Howard

Maximum Average Score = 4

Area	
Knowledgeable in the subject	4/4
Preparation for training presentation	4/4
Professional demeanor	4/4
Providing opportunities for discussion of material	4/4
Organization	3.93/4
Overall skills of the trainer	4/4

Facilitators Evaluation – Caterpillar/Weiler

Area	
Knowledgeable in the subject	4/4
Preparation for training presentation	4/4
Professional demeanor	4/4
Providing opportunities for discussion of material	3.87/4
Organization	3.93/4
Overall skills of the trainer	4/4

Participant Previous/Post Knowledge Assessment

Participants indicated their perceived level of knowledge prior to the training session.

1. Participants indicated their perceived knowledge after the training.
2. Each area is representative of the Learning Outcomes for the training program.
3. Percentage growth represents the participants' perceived growth in knowledge for the outcome.

LEARNING OBJECTIVE	% Growth
Paving industry in Canada and in Nova Scotia	**116**
History of paving and future trends	**122**
Basic asphalt road construction	**55**
Asphalt production and production plants	**74**
Quality control	**73**
Your rights and responsibilities under the OHS Act	**41**
Asphalt safety and work site safety	**23**
Hazard recognition and control hierarchy	**46**
Heat stress and heat stroke	**26**
Responsibilities of paving crew members	**39**
Safety warnings and labels	**42**
Inspecting hydraulic hoses and connections	**61**
General maintenance of paving machines	**68**
Read and interpret ISO symbols	**49**
Paver factors that influence mat thickness	**78**
Screed factors that influence mat quality	**89**
Adjusting and setting up the screed	**144**
Rolling longitudinal joints	**112**
Rolling transverse joints	**94**
Milling machines and operation	**108**
MTV operation.	**124**
Handwork – Raking, luting and shoveling	**35**

Recognition of mat defects	**88**
Prevention and correction of mat defects	**67**
Segregation; causes, prevention and controls	**78**
Paving by the numbers	**157**
Importance and calculation of spread rates	**148**
Machine guidance control for paving	**163**
Milling by the numbers	**167**
Paving parking lots (Commercial Paving)	**43**
Paving Cul du Sacs and Traffic Circles	**63**
Paving Supervision	**69**
Calculating weight of asphalt required	**138**
Automatic screed and slope controls	**116**

Recommendations

The following recommendations are offered for consideration:

1. Early contact with Cat (as early as September) will facilitate scheduling of instructors and equipment for the spring. The Cat trainers are very busy come spring time and early booking is necessary. It would be easier to cancel in December than to plan in January.

2. Employers need to be educated on the importance of attendance. Every year there are participant requests to miss two or three days for “other training” or assigned work. This year had a five-day request. Although some absences for sickness, court appearances, etc. can be handled (2 hours, one day), it is difficult to make up lost instruction in a certification course.

3. Continue to accomplish the “check-offs” during the course of instruction. This will achieve a higher number of certified participants.

4. Every year changing technology, methods and requirements need to be included and updated.

5. The lunch catering worked very well and, actually allowed us to continue discussions through lunch. Not formally intended but naturally occurred. No one was late for the afternoon session! Consider continuing providing onsite lunches.

Summary

The contribution of participants towards learning discussion both in small group and large group was excellent. The knowledge and experience in the room made learning easy. We had a lot of fun and enjoyment learning this year.

The experience for the participants was successful as indicated by the written comments, knowledge assessment and the positive remarks during the summary session. Thank you to the employers and members of NSRBA that attended the session.

Thank you to Peter, Mat, Allison, Kimberly and Robert of Toromont Cat for again providing the program and participants with the usual great hospitality. Your continuing partnership is valued.

Thank you, Marcello for your effort in pulling the expert instructors together. We look forward to working with you next year.

Thank you to Mark and the staff at Wilson's Equipment for the support to the training.

Thank you to Howard Chandler for bringing his experience, knowledge, practical examples and humour to the training program.

Thank you to Grant, and the NSRBA for the support you continue to provide to the ALT Training Program.

Tom Gamblin
Industrial Learning Resources Inc.