

OAPC-MTO HOT MIX ASPHALT SUBCOMMITTEE MEETING NOTES

Date: June 1, 2023
Time: 10:00am to 12:30pm
Location: Virtual Meeting via Microsoft Teams

ATTENDEE	ORG.	ATTENDEE	ORG.
Doubra Ambaiowei (DA)	OAPC/ORBA	Joel Magnan (JM)	MTO
Fernando Magisano (FM)	Canadian Asphalt	Kevin English (KE)	MTO
Vincent Gangaram (VG)	Dufferin Construction	Gelu Vasiliu (GV)	MTO
Selena Lavorato (SL)	GIP	Giselle Cotton (GC)	MTO
Sina Varamini (SV)	Engtec Consulting	Imran Bashir (IB)	MTO
Kevin Martin (KM)	Fermar Paving	Sonja Dambremont (SD)	MTO
John MacKay (JM)	GIP Inc.	Stephen Lee (SL)	MTO
Trevor Moore (TM)	COLAS Construction	Dariusz Wodala (DW)	MTO
Amma Wakefield (AW)	Asphalt Institute	Loan Le (LL)	MTO

INTRODUCTION / ANNOUNCEMENTS

- Introductions – Welcoming MTO Staff
- Dariusz Wodala – has replaced Fiona Tam as new coordinator
- Safety Talk – OAPC delivered a safety talk on Fatigue in the workplace
- Review/Approval of Previous (March 30, 2023) Meeting Minutes
- In the future, MTO plans to send minutes within 4 weeks of the meeting. OAPC will have two weeks to review, upon which minutes will be published on TCP.

OPEN ITEMS	ACTION BY
<p>Apr-20-11 TACK COAT SPECIFICATION</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • In early 2020, MTO implemented an updated version of the tack coat specification. OAPC-MTO working group was established. • MTO continues to share ISS (Interlayer Shear Strength) information with OAPC when available. MTO will add examples of tack coat application to the 2023 update of Field Guide for HMA. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • The field guide is being updated. MTO is planning to publish the guide in July. • The item will be closed once the field guide is published. <p>Action – MTO to Publish Field Guide</p>	<p>MTO</p>

<p>Dec-19-8</p>	<p>MIX PERFORMANCE TESTING (MPT)</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • MTO to develop specification for MPT that can be included on any project. • OAPC wondering if MTO has preferred method for balanced mix designs. • OAPC enquiring about IDEAL CT. Is it a consideration for Ontario? • MTO is conducting ongoing MPT Lab Correlations <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO distributed a graphical format of angle of gyration calibration • OAPC was concerned with whether the limit was one or two standard deviations. OAPC will verify the requirement in AASHTO • OAPC is also concerned with the height of the specimen during gyratory compaction. OAPC is concerned about introducing extra variability. • MTO stated that the height for Hamburg is 62 mm – the same height of briquettes for IDEAL CT and IDEAL RT. • OAPC is uncertain because there is not enough data. Hamburg is a different test and IDEAL RT and CT are continuous loads. The variability for IDEAL CT is shown to be small between laboratories. There is no data for RT. There is data showing the variability for Hamburg. • MTO stated that Hamburg testing is used by other agencies. NCAT indicates that 7 agencies use Hamburg for rutting, 7 others use Hamburg for rutting and stripping, and 7 agencies use Hamburg for balanced mix design research. • MTO indicates that they participated in the NCAT “round robin” correlation that includes Hamburg testing and will send the link to the website regarding this correlation. • OAPC is wondering what models of Pine and Troxler gyratory compactors are being used within the labs. MTO indicated that this information is confidential and is already disclosing more information than necessary. • MTO suggests that OAPC’s variable results are not because of angle of gyration. OAPC’s concern was that the angle of gyration could have been a factor for the mix sensitivity but may not have been the only factors to the observed variabilities. OAPC was concerned with the variability within the tests. OAPC indicates that the angle of gyration may have been a factor, but not the only factor. • Therefore, MTO ruled out the angle of gyration as the only variability factor. The other variable could be specimen dimensions. MTO 	<p>MTO</p>
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OPEN ITEMS		ACTION BY
	<p>highlighted that all the laboratories participating in MPT correlations have equipment calibrated within AASHTO limits.</p> <ul style="list-style-type: none"> OAPC wants to look at the individual labs that produced a result of angle of gyration at 1.18 and 1.15. <p>Action - MTO will provide NCAT study regarding Hamburg and rutting. MTO will examine the difference in results between laboratories at 1.18 and 1.15 degrees.</p>	
<p>Dec-19-7</p>	<p>REGRESSION METHOD TRIAL CONTRACTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> The purpose is to provide updates on regression mix design trial contracts. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO requested closing this item. There is no action items or active discussion. OAPC requested a memo from QAOs to the contractors to opt into regression at the start of contracts MTO has informed QA staff to bring up this method at meetings with Contractors. MTO indicates Contractors always have the option to add items to a pre-start agenda <p>ACTION – Close item.</p>	<p>MTO</p>

OPEN ITEMS	ACTION BY
<p>Apr-21-5 REDUCING # OF GYRATIONS for CAT. E & D MIXES</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • MTO is looking at reducing the number of gyrations for Category E and D mixes as another way to increase AC content. Suggested study is to review reduction of gyration from 125 to 100 for Category E mix, and from 100 to 85 gyrations for Category D mix. • OAPC Lab performance testing on a traprock mix is complete, with draft of findings being reviewed for CTAA conference submission. Findings generally support the ORBA Quality of Asphalt recommendation to increase AC contents in Ontario mixes by 0.5 – 1.0%. The 0.3% AC increase seen from reduced gyrations on the traprock mix, is consistent with earlier trials completed on a granite type mix. • The traprock mix met or exceeded all performance thresholds for rutting and cracking, with a general trend of improved performance with increasing AC content; particularly at the lower and upper limits of the optimum AC. The performance at optimum AC needs further review. At this time, variation in specimen air voids is the only viable interpretation. • OAPC presented at 2022 Fall Seminar on “Lower Gyration and the Impact on Mix Durability.” <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC will evaluate different sources of aggregates. <p>ACTION – Close Item</p>	

OPEN ITEMS	ACTION BY
<p>Apr-21-7 END RESULT SPECIFICATION (ERS) REVIEW of FINANCIAL ADJUSTMENT AND CPR IMPACTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • This item is included as a placeholder at OAPC’s request • OAPC inquired about the ERS pay factor adjustments. OAPC inquired if MTO would consider bringing back bonuses. MTO indicated that there is no intention to do so. MTO was under the impression that OAPC wanted the ERS curves adjusted. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC clarified only action was to cap PF at 1.00 • OAPC requested to keep this as a standing item. OAPC will use this item in case of updates. • MTO does not have resources to go through hundreds of records to summarize contractor performance. MTO used various forms of record keeping and systems over the last several years unfortunately data is not readily available. <p>ACTION – No Action</p>	
<p>Mar-22-10 ENVIRONMENTAL PRODUCT DECLARATIONS (EPD’S) FOR ASPHALT IN ONTARIO – MTO’S POSITION?</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • As part of the net zero emissions goal, OAPC is seeking to understand MTO perspectives on EPD’s for Ontario Asphalt Mixes and forging a collaborative approach to make it work. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO is waiting on OAPC to provide impacts of EPD on industry. <p>ACTION – MTO will follow up with climate change office regarding MTO’s direction. OAPC to provide impacts of EPD on industry to MTO.</p>	<p>MTO/ OAPC</p>
<p>Mar-22-11 CONSULTATION REVIEWS IN PROGRESS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • Standing item to provide updates on upcoming publications to TCP. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • Currently there are no updates. • OAPC requested that this remain as a standing item. • MTO clarified that comments need to be submitted through TCP. <p>ACTION – No Action</p>	

OPEN ITEMS		ACTION BY
Mar-22-12	<p>MTO'S GREENPAVE RATING SYSTEM <i>Description:</i></p> <ul style="list-style-type: none"> • MTO provided a presentation on GreenPave and OAPC would like to see some updates to the rating system for asphalt to make the rating more applicable and fairer. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC sent the Trillium Award Level of Awareness survey to MTO. • Defer discussion to next meeting. <p>ACTION – No Action.</p>	
May-22-13	<p>SMA Applications – Grit Sand Specification Revisions <i>Description:</i></p> <ul style="list-style-type: none"> • OAPC is looking to see if MTO can look at revising specification due to lack of grit sand sources available. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO shared that the review is still ongoing in consultation with Soils & Aggregates Section. MTO hopes to share an update by next meeting. As part of the Study, different aspects need to be considered, including aggregate source, quality, etc <p>ACTION – MTO to provide an update at the September meeting.</p>	
Sept-22-11	<p>DEVELOPMENTS FROM OAPC – 2022 ASPHALT TECHNICAL SYMPOSIUM & MTO FEEDBACK <i>Description:</i></p> <ul style="list-style-type: none"> • OAETG O-MAP study and Next Steps • PAV DSR Criterion <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC welcomed everyone to attend the ATS in June. OAPC will send out confirmation on the week of June 5 to all confirmed participants <p>ACTION – No Action</p>	

OPEN ITEMS	ACTION BY
<p>Sept-22-12 SMOOTHNESS SPECIFICATION – FUTURE CHANGES</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> • MTO reviewing the current smoothness specification and the list of exemptions for existing pavements. Specifically, MTO would like to modify Section 8.01.02 Paragraph F • MTO noted that currently projects have excluded entire lanes from smoothness measurements due to the tie-in exemption. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • MTO is still conducting internal review of the proposed specification. • MTO will look at options including diamond grinding to resolve smoothness related issues. • OAPC stated MTO needs to be aware that it is hard to meet many requirements (staging, compaction, cross fall, smoothness etc.) • OAPC stated that it is easier to meet smoothness on DB projects. The reason is because the contractor had control of the design of the project. <p>ACTION – MTO will publish smoothness specification on TCP.</p>	

OPEN ITEMS	ACTION BY
<p>Dec-22-13 ADDITIONAL OAPC 2023 RESEARCH PROGRAM OUTLINE <i>Description:</i></p> <ul style="list-style-type: none"> • OAPC initiated a new Study in collaboration with Carleton University. The expected timeline to complete Study is 3 years. • The study objective is to quantify the GHG emissions at asphalt plants. This study supports the move to net zero emissions. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC said Potential demonstration studies with high RAP mixtures – a member is moving forward with a municipality. Once process is confirmed, OAPC will share the results • OAPC is also conducting literature reviews and findings to be shared with ATS. • High RAP content is defined as RAP content over 20% according to OAPC. • MTO will consider increasing RAP contents upon further development of MPT and Recovered AC specifications. • OAPC appreciates MTO leadership in recycling but believes there are tools available to allow more RAP into mixtures. • MTO requested OAPC share experience with RAP use in surface on Hwy 401. • MTO indicated TAC will publish information on responsible use of RAP. <p>ACTION – OAPC to share results of high RAP study on the municipal project and other experiences related to RAP.</p>	
<p>Dec-22-16 Subcommittee Terms of Reference (TOR) <i>Description:</i></p> <ul style="list-style-type: none"> • As part of the response to the 2016 OAGO to MTO, TORs are prepared for all stakeholder subcommittees. This document speaks to mandates, memberships, meeting frequencies and processes. A draft copy of the TOR for this subcommittee was provided to OAPC for their review. OAPC confirmed receipt and will provide any comments shortly <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC understands that MTO will notify OAPC if MTO is considering making changes to the TOR. <p>ACTION – Close Item</p>	<p>MTO</p>

OPEN ITEMS	ACTION BY
<p>Mar-23-15 EXTENDING AC PRICE INDEX</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> Stakeholder engagement request from OAPC to extend the AC Price Index to other items z <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO confirmed that it does not publish AC price index in the winter. MTO extended the AC Index to tack coat and granular sealer. MTO will extend the AC price index to CIR, CIREAM <p>ACTION – MTO will review possibility of publishing monthly, year-round.</p>	
<p>Mar-23-16 INTRODUCTION OF LIFE CYCLE COST ADJUSTMENT FACTORS IN MTO CONTRACTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> OAPC inquired about how the factors are derived and what is the calculation. MTO clarified the Life Cycle Cost Analysis (LCCA) cost factors are derived from review of the total life span of the pavement, and cost from each stage of the rehabilitation. Each subsequent cycle of “rehab” would create different behavior on the pavement, so understanding LCCA requires long term data collection. MTO LCCA model is based on several extensive consultant studies done by ARRA/Stantec over 8 years using PMS database that span over 30 years. By inclusion of LCCA in design and construction per MTO’s Pavement Design and Rehabilitation Manual, it introduces adjustments into the tender process – at this time based on what is implemented, what are the focus points for MTO? Initial LCCA adjustments are dependent on individual project conditions and the rehab types selected by MTO’s regional geotechnical offices. Some typical values used by MTO in our LCCA project level assessment are available based on study done by ARRA on MTO database. MTO continues to track new combinations of rehab cycles and pavement conditions on how it will impact the assessment. OAPC should select a specific project and request details of the LCCA from MTO. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> MTO indicated that this needs to be done on a project basis with a specific example where the pavement investigation that support LCCA analysis is done. 	<p>OAPC</p>

OPEN ITEMS	ACTION BY
<ul style="list-style-type: none"> OAPC requested that MTO provide example calculations and MTO responded that they need a specific contract, that would be provided by ORBA. <p>ACTION – OAPC to follow-up via email, with MTO Head, Pavements Section regarding pavement selection.</p>	
<p>Mar-23-17</p> <p>REFEREE SAMPLING AND TESTING REQUIREMENTS</p> <p><i>Description:</i></p> <ul style="list-style-type: none"> OAPC indicated that referee testing has moved to only “virtual” attendance (based on Owner’s preference). MTO noted the decision to virtual platform was a result of some benefits realized during Covid, including reduced travel time for remote areas and removing sample shipping issues. MTO has addressed the initial technical errors during this move to the virtual platform and at this time would like to continue status quo. OAPC raised several concerns about the process, including the implementation where the consultation process was not followed. In addition, there have been poor experiences from the virtual referee. MTO acknowledged that there has been some negative feedback received and those issues have been addressed. As per the requirements of SP199S64, “Unresolved concerns shall be specific in nature and submitted in writing to the referee”. For further guidance, there is an additional document titled Requirements for Virtual referee. OAPC acknowledged the document however noted not all processes are being followed. <p><i>Discussion:</i></p> <ul style="list-style-type: none"> OAPC wants the ability to go back to in person referee testing upon request. MTO reiterated it has taken action against laboratories not following referee protocol. The virtual referee protocol was published by MTO on the technical publication website during the Covid-19 pandemic. SSP 199S64 did not change with the pandemic and the protocols were clear on how referee testing concerns are to be handled. OAPC indicated that MTO QA Staff should raise issues with virtual testing when they notice them. OAPC did not provide specific instances where there were issues and the referee protocol was not followed. <p>ACTION – MTO will review how many concerns were submitted from contractors regarding virtual testing.</p> <p>MTO will review its policy on virtual testing for the next meeting.</p>	<p>MTO</p>

NEW ITEMS		ACTION BY
June-23-1	<p>HMA OPTIMIZATION <i>Description:</i></p> <ul style="list-style-type: none"> • Crumb rubber and higher RAP combinations <p><i>Discussion:</i></p> <ul style="list-style-type: none"> • OAPC indicated that MTO conducted crumb rubber trials • OAPC wants to discuss the ability to have a working group with industry to have crumb rubber and high RAP in mixes. • MTO asked if OAPC consulted members for experience with crumb rubber. OAPC indicated that a couple of specific members are asking but has not consulted all members. • OAPC stated that there are many factors on how crumb rubber is incorporated (terminal, dry, ambient etc). These factors impact the quality. OAPC indicated the crumb rubber trials done by MTO (highway 7 and highway 35, and highway 115) are both in service and performing well. • MTO indicated that performance needs to be looked at objectively. • MTO also indicated that other things need to be considered– Ontario Tire Stewardship provided money for these projects. There would be an increased production cost of crumb rubber on MTO contracts. • There are many factors that need to be addressed and researched before MTO considers further crumb rubber trials. <p>ACTION – No Action</p>	
	<p>ROUND TABLE No round table discussion</p>	

INFORMATION SHARED FOR THIS MEETING		
Document Title	Shared By	Format
MTO – Angle of Gyration 8 May 2023.pdf	MTO	Graph/Figure (pdf)

NEXT MEETING
<ul style="list-style-type: none"> • Meeting #3 (OAPC Host): Thursday, September 21st • The meeting will be hybrid, MTO is welcome to join in-person format or virtual • Meeting #4 (MTO Host): Thursday, December 7th <p>All meeting scheduled from 10 am - 1 pm</p>