

**TRANSCRIPTS OF**  
**L. UZAROWSKI NOTEBOOKS**



GOL0007403

IMAGE 1

May 5/2004

to

Nov 21/2005

<p style="text-align: center;"><u>Tuesday, January 11/05</u></p> <p><u>Meeting with Gary Moore from the City of Hamilton</u></p> <p>~ 21.6 km to 29.1 = <u>8.5 km</u></p> <p><u>4 lane expressway</u></p> <p><u>90 km/hr</u> posted speed</p> <p>des. speed 100-110 km/hr</p> <p>4 lane facility</p> <p>2% grade vs 4% grade</p> <p>truck claiming lane</p> <p><u>70 000 veh/day</u> a day it opens</p> <p>the</p> <p>\$400,000,000 job</p> <p>the largest municipal undertaking in Canada</p> <p>rural section</p> <p>450 subbase Gr. B Type 2</p> <p>150 base Gr. A</p> <p><u>120 HL 8</u></p> <p><u>40 HL 1</u></p> <p>Not to rise the grade</p> <p>structure urban sections &amp; bridges</p> <p>Fill embankment</p> <p>rock cut areas</p> <p>large fill areas</p> <p>earth fill areas</p>	<p>embankment fills</p> <p>emb. will consolidate, 2 year of construction eq.</p> <p>on the embankment</p> <p><u>Open in 2007</u></p> <p><u>paving late 2006</u></p> <p>subgrade plan</p> <p>geotech reports</p> <p><u>8-12% trucks</u>, MTO on freeway</p> <p>% growth –</p> <p>_____</p> <p>opened</p> <p><u>max 80,000 veh/a day</u></p> <p><u>70,000 5% and flats at 80,000</u></p> <p>_____</p> <p>Freeway</p> <p><u>15 years, 2 surfacings</u></p> <p><u>SMA – Gary wants to use</u></p> <p>3 dB eqi noise attenuation</p> <p>right PGAC</p> <p><u>150,000 tonnes</u></p> <p>greenfield cond. with no traffic, echelon paving, MTV</p>
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<p>big quantity of paving Total <u>120,000 tons, 30,000 surface course</u></p> <p>He can use Superpave mixes</p> <p><u>SMA on the top</u></p> <p><u>Do they need traprock for SMA</u></p> <p><u>steel slag</u></p> <p><u>local high quality limestone</u></p> <p>Lafarge</p> <p><u>steel slag SMA as a test section</u></p> <p>—</p> <p>Less on cut than MTO</p> <p><u>SMA is already there</u></p> <p><u>Detour costs</u></p> <p>If a \$7,000,000 – a backup required.</p> <p>What the ballpark numbers are and then proceed.</p> <p>CTAA paper.</p> <p>Until 2006, tender spec – spring 2006.</p>	
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End of Feb.

1 or 2 page letter – outlining what  
to do

Functional Stage

- feasibility stage
- design stage – another proposal

Tuesday, Jan 11/05

1/ Meeting with Gary Moore from Hamilton.

GOL0007403

IMAGE 4

Thursday Jan 27/05

GOL0007403

IMAGE 5

4) Hamilton

GOL0007403

Wednesday March 2/05

2/ Hamilton

Tuesday March 15/05

1/ Notes for Gary

6/ Hamilton

Wednesday March 16/06

1/ Meeting with Gary Moore from the City of Hamilton

a/ RHCE project

b/ CTAA paper

11:05

11:52 Anurag



GOL0007403

<p style="text-align: center;">Wednesday March 16/06</p> <p>1/ Meeting with Gary Moore from the City of Hamilton</p> <p style="padding-left: 40px;">a/ RHCE project</p> <p style="padding-left: 40px;">b/ CTAA paper</p> <p>11:05</p> <p>11:52 Anurag</p>	<p>1/ Traffic</p> <p>2/ Constr. estimate ✓</p> <p>3/ Quantities ✓</p> <p>4/ Granular material – what prices? ✓</p> <p>5/ Length 21+600 - 29+ <del>850</del> 100 ✓</p> <p>6/ What materials ✓</p> <p style="text-align: center;">SMA</p> <p>7/ Truck lane</p> <p>8/ Do we use SMA in both options ✓</p> <p>9/ User cost &amp; detour</p> <p style="padding-left: 40px;">Base repair &amp; reconstr. – detours 150</p> <p style="text-align: right;">crossing detours</p> <p>Assume % of the length.</p>
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GOL0007403

IMAGE 8

Tuesday May 10/05

4/ Hamilton

GOL0007403

Monday May 30/05

3/a/ May 24/05 Gary Moore !

GOL0007403

Wednesday June 8/05

4/ Hamilton

GOL0007403

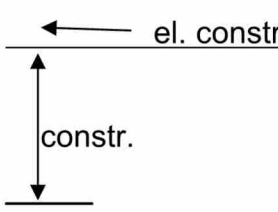
Monday June 13/05

5/ Hamilton

GOL0007403

Monday June 27/05

1/ Hamilton

<p><u>Tuesday June 28/05</u></p>	<p>Meeting with Gary Moore</p> <table border="0"> <tr> <td>160</td> <td>40 s.c.</td> <td style="border: 1px solid black;">40</td> <td></td> </tr> <tr> <td></td> <td><u>120</u> - binder</td> <td>100</td> <td>220</td> </tr> <tr> <td></td> <td>150 A</td> <td>80</td> <td>- 40</td> </tr> <tr> <td></td> <td><u>450</u> B</td> <td>150</td> <td>- 80</td> </tr> <tr> <td></td> <td>760</td> <td style="border: 1px solid black;">390</td> <td style="border: 1px solid black;">100</td> </tr> <tr> <td></td> <td></td> <td style="border: 1px solid black;">760</td> <td></td> </tr> </table>  <hr/> <p>Widening in the future</p> <p>1/ 5-10% base repairs</p> <p>2/ ramp &amp; of crossovers &amp; traffic control – money disposed in a long term</p> <p>MTO – hav this is the way they do it vs. what we want to do</p> <p>Can we save 1 cycle over life period of 75 years.</p>	160	40 s.c.	40			<u>120</u> - binder	100	220		150 A	80	- 40		<u>450</u> B	150	- 80		760	390	100			760	
160	40 s.c.	40																							
	<u>120</u> - binder	100	220																						
	150 A	80	- 40																						
	<u>450</u> B	150	- 80																						
	760	390	100																						
		760																							

GOL0007403

<p>Is it cost effective if have to pay more than asphalt?</p> <p>Lower price asph. for high quality. 2-3 times – the user delay cost will range from to.</p> <p>Consider higher gr. base material. Not to have traffic disruption, local roads.</p> <p>Only one transp. corridor, no parallel roads.</p> <p>Only 0.2% of the project (\$400 million). Perp. p. 6% more expensive constr.</p> <p>Normal des. 25-30 years – base repairs 70 years – 2 cycles of full depth repair for conv.</p> <p>Perp. – you can save 2 cycles. 80% or 100% replacement cost.</p>	<p>Add money at the end of the cycle.</p> <p><i>[This page contains a drawing that has not been reproduced here – refer to GOL0007403 at image 14]</i></p>
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GOL0007403

Wednesday Sep 7/05

3/ Hamilton

GOL0007403

Monday Sept 26/05

4/ City of Hamilton - report

Wednesday Sept 28/05

1/ Gary Moore

a/ GPR

b/ Phase 2

c/ Phase 1 finish

9:26 am      Wednesday – not

Tuesday after

Monday – not

Thursday – afternoon Oct. 6 – OK 2:00 pm

- project specifications, mix designs review
- construction supervision
- QC/QA

GOL0007403

IMAGE 18

Friday Oct 7/06

GOL0007403

2/ Gary Moore – City of Hamilton

- Red Hill Valley Expressway

- 52 km resurfacing – GPR

- Chris Philips

GOL0007403

<p>Hamilton</p> <ul style="list-style-type: none"><li>- GPR 52 km - \$30,000 Chris Philips</li><li>- FWD</li><li>- resurfacing design</li><li>- pavement evaluation<ul style="list-style-type: none"><li>• boreholes &amp; GPR</li><li>• FWD</li><li>• pav. cond. survey</li><li>• pav. rehab/resurfacing design<ul style="list-style-type: none"><li>• recycling!</li></ul></li></ul></li></ul>	<p>Phase II Red Hill Valley</p> <p>What the mix</p> <p>Mix requirement for perp. pav. specifications</p> <p>Superpave, SMA, RBL</p> <p>what grades</p> <p>specification development</p>
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GOL0007403

proposal with cost estimate  
tender – March  
by February  
depth is determined

GOL0007403

Thursday, Oct 13/05

Hamilton



GOL0007403

Friday, Oct 14/05 5/ Hamilton	Monday Oct 17/05 3/ Hamilton 1 hr
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GOL0007403

Friday Oct 22/05

Chris Philips

Is there steel slag – GPR will not give info

Is it paved

lane km

gravel or asph

Can we drive or have to walk

a vehicle

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Senior Project Manager

Susan Jacob x 2621

City of Hamilton

GOL0007403

Tuesday Oct 25/05

2/ Hamilton

GOL0007403

Oct 31/05

9/ Hamilton

GOL0007403

Friday Nov 11/05	3/ Chris Philips GPR Hamilton Nov 9 Wedn. Whom to contact 647 280 9589
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<u>Tuesday, Nov 15/05</u>	5/ Gary Moore
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GOL0007403

Dec 12/05

4/ Hamilton

GOL0007398

IMAGE 1

Jan 4/05

to

Dec 23/05



GOL0007398

<p>January 10 City of Hamilton perp. pav.</p>	<p>January 11 1/ Meeting with Gary Moore from City of Hamilton P511-8006      5 hrs</p>
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GOL0007398

January 12 3/Hamilton proposal 3 hrs	January 13 2/ Hamilton proposal 1 hr
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GOL0007398

January 20

7/ Hamilton 0.5

GOL0007398

January 27

3/ Hamilton 1 hr

GOL0007398

January 28 4/Hamilton 0.5	January 29 4/ Hamilton 2 hrs
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GOL0007398

February 3

5/ Start Hamilton 0.5 hr

GOL0007398

February 12

3/ Hamilton

GOL0007398

February 14

5/ Hamilton 2 hrs



GOL0007398

February 16 2/ Hamilton	February 17 4/ Hamilton 1.5
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GOL0007398

February 18 2/ Winnipeg Hamilton 1.5 hrs	February 19 4/ Abstract for Hamilton 5/
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GOL0007398

February 22

5/ Hamilton 4 hrs

GOL0007398

February 24

7/ Hamilton

GOL0007398

February 26

2/ Hamilton @ ½ hr

GOL0007398

February 28

Complete the Hamilton

Phase 1 project

GOL0007398

March 2 2/ Hamilton 3	March 3 2/ Hamilton
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GOL0007398

March 4

7/ Hamilton



GOL0007398

March 7

2/ Hamilton 2 hrs

GOL0007398

March 11

2/ Hamilton 1 hr

3/ Hamilton 0.5 hr

GOL0007398

March 14 5/ Hamilton 1 hr	March 15 4/ Hamilton 3.5 hrs
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GOL0007398

March 16 a/ Hamilton project 3 pm Hamilton 7.5 hrs	March 17 2/ Hamilton 1 hr
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GOL0007398

March 18

5/ Hamilton 1 hr

GOL0007398

March 21

3/ Hamilton 2 1.5

GOL0007398

May 3

8/ Hamilton

GOL0007398

May 4

1/ Hamilton 2



GOL0007398

May 12

6/ Hamilton

GOL0007398

June 6 ! 1/ Hamilton – draft	June 7 4/ Hamilton 3 5/
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GOL0007398

June 8

4/ Hamilton 1 hr

GOL0007398

June 13 3/ Hamilton 3.5 hrs	June 14 1/ Hamilton
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GOL0007398

June 22 5/ Gary Moore	June 23 2/ Hamilton
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GOL0007398

June 27

2/ Hamilton

GOL0007398

June 29 1/ Gary Moore 2:00 pm Hamilton – Draft report	June 30 3/ Hamilton
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GOL0007398

July 27

3/ Gary Moore

1



GOL0007398

September 26

3. Hamilton - report

GOL0007398

September 28

6/ Gary Moore

GOL0007398

October 4

4/ Hamilton 2

5/ Hamilton } presentation  
                  } for Gary Moore

-Phase II 2

GOL0007398

October 7

- Meeting with Gary Moore

Hamilton

2.5

GOL0007398

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GOL0007398

October 12

6/ Hamilton - report

GOL0007398

October 14

2/ Hamilton

- Phase I

- Phase II

- resurfacing – Chris Philips

GOL0007398

October 17

12/ Hamilton proposal



GOL0007398

October 20

11/ Hamilton proposal

GOL0007398

October 21

2/ FWD other testing

Hamilton  $\checkmark\checkmark$

4/ Hamilton proposal

GOL0007398

October 25

2/ Hamilton

GOL0007398

October 30

Ryan – FWD Hamilton

GOL0007398

October 31 7/ Hamilton FWD      1	November 1 3/ FWD      1
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GOL0007398

November 2 5/ Hamilton resurf – fwd     1	November 3 3/ Hamilton resurf.             1.5  4/ Hamilton – testing for Paul Lum                                     0.5  7/ Hamilton – Paul & Gary
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GOL0007398

November 4

3/ Hamilton project resurf. 1

4/ FWD testing for Hamilton

- with Paul Lum 0.5

GOL0007398

November 10

2/ SMA proposal v 0.5



GOL0007398

November 16 7/ SMA study proposal v 1.5	November 17 4/ SMA proposal 2-1.5
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GOL0007398

November 18 2/ Hamilton – fwd testing 1	November 19 1/ Hamilton – Paving On Lincon Alexander Parkway – SMA 12.5 Crumb Rubber Modified Mix 3 hrs Ota
	November 20 Ota

GOL0007398

November 21 4/ Hamilton Phase 2    2 hrs  6/ SMA proposal	November 22 2/ SMA proposal – conf call    33/ Hamilton – Gary Moore – Phase 2 3 hrs
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GOL0007398

November 25

4/ Gary Moore – Hamilton 2

GOL0007398

November 28

3/ Hamilton Ph. 2 1

GOL0007398

December 14 5/ City of Hamilton	December 15 3/ City of Hamilton
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GOL0007398

December 16

5/ Gary Moore – Phase 2 & resurf.

8/ City of Hamilton

GOL0007398

December 20

2/ City of Hamilton



GOL0007408

IMAGE 1

Jan 2 /07

to

Dec 21/07

GOL0007408

January 2 5/ Hamilton resurfacing	January 3 2/ Hamilton resurfacing
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GOL0007408

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GOL0007408

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GOL0007408

January 12

1/ Hamilton

GOL0007408

January 15

4/ Hamilton resurfacing

GOL0007408

January 17

7/ Hamilton resurfacing

8/

GOL0007408

January 18 1/ <u>Hamilton resurfacing</u> 2/ Hamilton – Wade O’Leary	January 19 3/ Hamilton resurfacing
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GOL0007408

January 24 1/ Hamilton	January 25 1/ Hamilton
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GOL0007408

January 26

1/ Hamilton – report to Gary

GOL0007408

February 20

5/ Hamilton

GOL0007408

<p>February 21 3/ Hamilton resurfacing</p>	<p>February 22 7/ Hamilton – Marco Oddi Superpave</p>
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GOL0007408

February 23

4/ Philips – lab Marco Oddi

GOL0007408

February 26

10/ RHVP

GOL0007408

February 28

7/ Hamilton - resurfacing

GOL0007408

March 1

1/ Hamilton – tensile sensors



GOL0007408

March 13 6/ RHVP – personnel, budget	March 14 3/ RHVP - Salman Bhuta →
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GOL0007408

March 20

1/ Hamilton – site  
meeting @ 11:00 am

GOL0007408

March 21

3/Gary Moore

4/ Andrea Morningside – RHVP

5/ RHVP mix design

GOL0007408

March 26

1/ Meeting with Gary Moore

6 hrs – mileage Altima

GOL0007408

<p>March 27</p> <p>9/ Hamilton resurfacing report 061181 239</p> <p>10/ <u>Hamilton</u> – fatigue endurance of mixes, minutes of meeting</p> <p>13/ Hamilton - resurfacing</p>	<p>March 28</p> <p>1/ <u>RHVP – fatigue testing!</u></p>
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GOL0007408

March 29 8/ RHVP – fatigue endurance	March 30 4/ Hamilton – research on fatigue
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GOL0007408

April 2

1/ Hamilton

- WIM & tensors – research

GOL0007408

April 4 5/ Paul Lum 6/ Hamilton - tensors	April 5 8/ Hamilton resurfacing 9/
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GOL0007408

April 11

1/ Hamilton      2 hrs  
RHVP

GOL0007408

April 12 2/ Hamilton 2:00 pm – trailer	April 13 1/ Hamilton – RHVP - meeting
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GOL0007408

April 16

6/ Hamilton 1 hr

GOL0007408

April 18

4/ Gary Moore 1 hr

GOL0007408

April 20

5/ Hamilton resurfacing ½ hr

GOL0007408

April 23

2/ Hamilton – open cut ½ hr

GOL0007408

April 25

4/ RHVP – inspection ½ hr

April 26	April 27 1/ RHVP – mixes                      2.1 hrs
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GOL0007408

April 30 1/ RHVP 3.0	May 1 3/ RHVP 1 hr
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GOL0007408

May 2

Hamilton RHVP  
meeting @ 10:00 am

1/ RHVP – site visit – 4 hrs  
proof rolling

2/ Meeting with Gary Moore  
a/ Sensors b/ QEW 2 hrs  
c/ retainer d/ Superpave e/ RHVP f/

GOL0007408

May 7

6/ Hamilton RHVP  $\frac{1}{2}$

Open cut

GOL0007408

May 8 1/ RHVP – meeting on site	5 hrs	May 9 RHVP invoice	½ hr
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GOL0007408

May 14 3/ Proposal for Gary Moore – instrumentation	May 15 3/ Gary Moore 061181230 - sensors in RHVP 2 hrs
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GOL0007497

IMAGE 11

May 15

3/ Gary Moore 061181230  
- sensors in RHVP 2 hrs

9/ ~~Oakville~~ FWD RHVP 0.5hr

GOL0007408

May 16 3/ RHVP – FWD report      1hr trial strip                      1 hr	May 17 1/ Hamilton RHVP      3.5 hrs  3/ Hamilton RHVP FWD      1 hr  6/ RHVP site – field tech.
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GOL0007408

May 18

1/ RHVP 2



GOL0007408

May 22 2/ RHVP 2 hrs	May 23 1/ RHVP – trial strip 7.5
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GOL0007408

May 24 4/ RHVP – Boshan Huang    0.5 hr	May 25 5/ RHVP – Andro    3 hrs 6/
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GOL0007408

May 28

1/ RHVP

GOL0007408

June 1

2/ RHVP mix designs 1 hr

GOL0007408

June 4

2/ RHVP inspection

GOL0007408

<p>June 11 <u>1/ RHVP – compaction</u></p>	<p>June 12 1/ 11 am – meeting in Hamilton <u>RHVP</u> paving meeting</p>
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GOL0007408

June 13 2/ Hamilton – SP 19 R15?  3/ Hamilton – meeting with Gary Moore  5/ RHVP	June 14 1/ RHVP   3 hrs
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GOL0007408

June 15

3/ RHVP office

4/



GOL0007408

June 18

2/ RHVP

6/ Hamilton resurfacing

GOL0007408

June 19 1/ RHVP 4 hrs	June 20 4/ RHVP
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GOL0007408

June 23

RHVP – 4 hrs

GOL0007408

June 25

1/ RHVP instrumentation 3  
people

GOL0007408

<p>July 9 - RHVP - ...</p>	<p>July 10 1/ Meeting in Hamilton RHVP 9:00</p>
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GOL0007408

July 12

- RHVP

- RHVP – instrumentation

-

GOL0007408

July 13

1/ RHVP mixes



GOL0007408

July 16

Hamilton

1/ Chris Marshall 2

3/ RHVP      ↙ +1 = 3

GOL0007408

July 17 RHVP	July 18 3/ RHVP
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GOL0007408

<p>July 19 a/ Hamilton RHVP – instrumentation installation</p> <p>7:30 – 8:00</p> <p>b/ meeting with Marco</p>	<p>July 20 2/ Hamilton RHVP instrumentation</p>
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GOL0007408

July 23 / RHVP instrumentation 0.5	July 24 1/ RHVP SMA – 3.0
12/ RHVP SMA mix 2 hrs	

GOL0007408

July 25 1/ RHVP - SMA test strip 4 hrs	July 26 5/ RHVP 1 ½
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GOL0007408

July 27

(instrumentation 1 hr)

1/ RHVP – meeting on site  
about SMA test strip 4 hrs

GOL0007408

July 30

1/ RHVP – paving

- instrumentation

GOL0007408

July 31 1/ RHVP – SMA – aggregates 2	August 1 1/ RHVP - test strip SMA 4
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GOL0007408

August 2 1/ RHVP – paving - instrumentation	August 3 1/ RHVP - 2 trips to Hamilton
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GOL0007408

August 9

4/ RHVP - instrumentation

GOL0007408

August 10

1/ Hamilton RHVP 4 hrs

GOL0007408

August 14 1/ Janis? 0711810405 RHVP? 5 hrs	August 15 3/ Hamilton
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GOL0007408

August 16 2/ RHVP – paving - instrumentation - memo from Gary	August 17 6/ RHVP FC2 with Marmoa Quarry HL3HS
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GOL0007408

August 20 1/ RHVP	August 21 1/ RHVP - meeting - costs - lab
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}

6 hrs

GOL0007408

August 27

3/ RHVP – shoulder HL3HS, deficiencies  
instrumentation

GOL0007408

August 28 7/ RHVP – expenses - instrumentation	August 29 1/ RHVP – instrumentation, project
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GOL0007408

August 31

4/ RHVP – Andy Bateman

GOL0007408

September 4

2/ RHVP

GOL0007408

September 5 4/ <u>RHVP</u> – instr., project	September 6 7/ <u>RHVP</u> – instr.
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GOL0007408

September 7

1/ 9:00 RHVP instrumentation  
meeting with Jim Wid[*text could not be confirmed*]  
in Hamilton

RHVP – meeting  
with Marco – costs,  
drafts

GOL0007408

September 10

4/ RHVP – Gary Moore

IRD – instrumentation

SN testing,

Chris Raymond – SN

RBM spec

Andro - deficiencies

GOL0007408

September 11 - RHVP – instr - project	September 12 4/ RHVP – instr.
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GOL0007497

IMAGE 13

September 13

3/ Marco RHVP

GOL0007408

September 14

3/ RHVP instrumentation

7/ RHVP project



September 17

1/ meeting with Gary  
Moore @ 10:00am  
in Hamilton – budget  
on RHVP

5/ RHVP – instr.  
project

GOL0007408

September 17 5/ RHVP – instr. project	September 18 2/ RHVP – instr. - project
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GOL0007408

September 24

4/ RHVP – bus tour, instrument

GOL0007408

September 25 4/ RHVP – project	September 26 7/ OHMPA – RHVP tour  11/ OHMPA – RHVP tour
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GOL0007408

September 27 2/ OHMPA – RHVP tour	September 28 2/ OHMPA RHVP tour  5/ RHVP – Chris Raymond - instrumentation
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GOL0007408

October 2

4/ RHVP – project – Chris Raymond  
instr.

GOL0007408

October 3 4/ RHVP – project - instr.	October 4 4/ RHVP – project -- instr.
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GOL0007408

October 5

6/ Sandy Brown RHVP



GOL0007408

October 10

3/ RHVP – instr.

GOL0007408

October 11 2/ RHVP instr	October 12 6/ RHVP 1:00 pm CRA-John Blair this afternoon
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GOL0007408

October 15

- 12-2 Hamilton

- Imran, Andro, LU

1/ RHVP – instrumentation  
installation  
8:30 – 13

3/ OHMPA bus tour organization

GOL0007408

<p>October 17 4/ RHVP – instr. 061181230A – \$ 38, 160</p> <p>5/ Profilograph from Jani for RHVP</p>	<p>October 18 1/ <u>RHVP</u> – SN numbers - instrumentation                      PM24</p>
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GOL0007408

October 19

2/ RHVP – instr., project

GOL0007497

IMAGE 15

October 22

5/ Presentation for OHMPA on  
RHVP – bus tour

GOL0007497

IMAGE 16

October 23

1/ OHMPA bus tour

GOL0007408

October 25 2/ RHVP instrumentation	October 26 1/ RHVP
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GOL0007408

October 29 1/ <u>RHVP instr.</u>	October 30 1/ <u>RHVP</u> – Gary Moore Instrument.
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GOL0007408

October 31 1/ <u>RHVP</u> – <u>project</u> – ( <u>cost</u> ) – revised instr.	November 1 3/ RHVP instr.
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GOL0007408

November 2

1/ RHVP instr., pav.

5/ Chris Raymond MTO –

Blastrac

GOL0007408

November 5

1/ RHVP instr.

GOL0007408

<p>November 6 1/ RHVP instr     - traffic 3/    - <u>pavement</u></p>	<p>November 7 1/ RHVP instr.     - traffic     - pav.</p>
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GOL0007408

November 8 2/ RHVP instr – traffic - pav.	November 9 4/ RHVP instr.
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GOL0007408

November 13

3/ RHVP – instr.

- pav. revised cost of testing

GOL0007408

November 14 1/ RHVP – instr.	November 15 1/ RHVP – instr.
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GOL0007408

November 19

3/ RHVP Philips detailed costs

GOL0007408

November 20 1/ RHVP instr. traffic  4/ RHVP Philips	November 21 1/ RHVP instr. – traffic Philips  4/ Philips - RHVP
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GOL0007408

November 22

2/ RHVP instr.

Philips

GOL0007408

November 26 5/ RHVP	November 27 6/ RHVP instr.
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GOL0007408

November 28

3/ RHVP instr.

pavement

GOL0007408

November 30

2/ Hamilton – instr. Traffic

8/ RHVP instr.

GOL0007408

December 3

4/ RHVP

GOL0007408

December 4 3/ Philip Eng – Hamilton	December 5 4/ <u>RHVP instrumentation</u> – Len
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GOL0007408

December 6 3/ RHVP Philips Instrumentation	December 7 4/ RHVP Philips instrumentation
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GOL0007408

December 10

1/ RHVP Philips

GOL0007408

December 13

11/ RHVP - Len

GOL0007408

December 18 3/ RHVP	December 19 3/ RHVP instrumentation
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GOL0007397

IMAGE 1

February 19/2007

to

May 30/2007

GOL0007397

IMAGE 2

Tuesday Feb 20/07

City of Hamilton – Garth & Eastport	<u>Wednesday Feb 21/07</u>
Andrew Fehiuczale	Marco Odi - Hamilton
Draft report – a few typos	
Map of boxholes	
Where the CL is?	

GOL0007397

Friday Feb 23/07

3/ Messages:

- Gary Moore

Monday Feb 26/07

4/ Hamilton – Gary Moore



Wednesday Feb 28/07

7/ Hamilton – RHVP & Resurfacing

GOL0007397

Unshrinkable fill \$110/m<sup>3</sup>

Gmm A            \$35/m<sup>3</sup> \$50

Gary – open crossing – unshrinkable

- Superpave, warm asphalt
- tensile strain gauges installation & monitoring

Andrew Felincrale

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Various air voids

Moisture average

Low temp resistance

*[This page contains a drawing that has not been reproduced here – refer to GOL0007397 at image 6]*

100,000 WIM weight / count

U of W

<p style="text-align: center;"><u>Friday March 2/07</u></p> <p>Susan Tighe</p> <ul style="list-style-type: none"><li>• Hamilton – tensile strain sensors</li><li>• technical papers</li></ul> <p style="text-align: center;"><u>Monday, March 5/07</u></p>	<p>5/ Hamilton - \$31,000</p>
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GOL0007397

IMAGE 8

Thursday, March 15/07

<p>√ 4/ City of Hamilton – GAIA</p> <ul style="list-style-type: none"><li>• innovative testing and mix designs - for perpetual pavement</li></ul>	<p><u>Friday, March 16/07</u></p> <p>4/ RHVP – costs, budget</p>
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Monday March 19/07

4/ Hamilton RHVP

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Hamilton -

7,000,000 specification

< 100,000 cycles

@ strain level

$$Nf = K \left( \frac{1}{Eo} \right)^n$$

<p>3/ Hamilton – Philips, talk to Gary</p> <p>6 /</p> <p style="text-align: center;"><u>Tuesday March 20/07</u></p> <p>1/ Meeting in Hamilton</p> <ul style="list-style-type: none"> <li>• Action – mix designs – will be done today, 90% of the work is done RBM, SPI9, SP25</li> <li>• Aggregate stockpile</li> </ul> <p>2/ Asphalt issue</p> <p>RBM mix – done</p> <p>Issue – fatigue testing</p> <p style="padding-left: 40px;">dynamic modulus – next week</p> <p style="padding-left: 40px;">rutting 4.6 mm</p> <p style="padding-left: 40px;">no lime</p> <p style="padding-left: 40px;">AV 3.2%</p> <p>SPI9 mix - ready 4.5% ac</p> <p>25            4.0</p>	<p style="text-align: center;"><u>Wednesday, March 21/07</u></p> <p>6/ RHVP      a) mix designs</p> <p style="padding-left: 100px;">b) aggregates from Quebec</p>
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<p>Gary Moore</p> <p>RHVP      1/ QC/QA – control charts</p> <p>             2/ mid April - no way – frozen subgrade or saturated</p> <p>             3/ frozen subgrade</p> <p>             4/ gran. base 200,000</p> <p>             5/ <u>proof roll before paving</u></p> <p>             6/ <i>[text could not be confirmed]</i></p> <hr/> <p>Monitoring station</p> <ul style="list-style-type: none"> <li>- tensile strain sensors</li> <li>- CPATT, OHMPA, MTO</li> </ul> <p>WHIM \$100,000</p>	<p><u>Monday, March 26/07</u></p> <p>1/ Meeting with Gary Moore</p> <ul style="list-style-type: none"> <li>- resurfacing project</li> <li>- fatigue testing</li> <li>- warm asphalt</li> <li>- additional budget</li> <li>-</li> </ul>
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*[This page contains a drawing that has not been reproduced here – refer to GOL0007397 at image 13]*

*[This page contains a drawing that has not been reproduced here – refer to GOL0007397 at image 13]*

<p><u>Tuesday, March 27/07</u></p> <p>6/ Dufferin Construction (905) 961-2228 Wade O'Leary (905) 971 4308 Paul Janicas    Andy?</p>	<p>1/ Mike</p> <p>2/ Gary – report, RHVP – Tom Kaz, budget    Section 17 Upper Wentworth</p>
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GOL0007397

Technical Memorandum

Carl Monismith

510 665 3560

Wednesday, March 28/07

1) RHVP – fatigue testing

- talked to Marco

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Friday March 30/07

1/ Research – Hamilton

<u>Thursday, April 5/07</u>	<u>Wednesday April 11/07</u>
5/ RHVP – fatigue 8/ Hamilton – resurfacing 9/ Hamilton – proposal for	1/ Hamilton - tensile strain sensors - resurfacing - RHVP – fatigue life testing - mix designs – review – verification - QEW open cut

Wednesday April 11/07

2/ Messages

- April 8 – Philips – Walter – meeting
- Jeff McCasic – Philips –
- Lori 37731
- Thursday 2:00pm meeting

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1/Hamilton

- tensile strain sensors
- resurfacing
- RHVP–fatigue life testing
- mix designs–review–verification
- QEW open cut

- Hamilton – mix testing

GOL0007397

23/ Hamilton

- meeting @ 2:00 pm on site

MRC/trailer

- Marco Oddi x 2387

- Walter Mazarano ▶ trailer (905) 335-2353

▶ office (905) 578-3935

cell (905) 978-9045

- Gary x 2382



<u>Thursday April 12/07</u> 2/ Hamilton RHVP – tomorrow @ 2:00 pm 3/ Hamilton resurfacing	<u>Meeting in Hamilton</u> 5 - City of Hamilton
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GOL0007397

Meeting in Hamilton April 13/07

Walter – opened meeting

Paul – presented the case, 7000000 is not achievable.

Complete packages submitted

Mix designs

Placement of mixes.

Monday April 16/07

3/ Hamilton resurfacing

GOL0007397

Gary Moore 905 546 2424 x2382

Gary:

a/ Cost GPR \$8.500 +4,000 TC + \$1120/OPP

Total - \$13,680 cruiser

b/ ~~sfm~~ ASG – asphalt strain gauges

\$50 000 - \$70,000 \$80,000

send it to Gary

c/ warm asphalt – McAsphalt + Waterloo

Lafarge – bid a job at lower price and get it.

d/ RHVP – L. joint in RBM mat

<u>Monday April 23/07</u>	<u>Tuesday April 24/07</u>
3/ Hamilton RR 20 rehabilitation - Hamilton RHVP – mixes – verification, tensors - Imran	

<p>- Gary Moore</p> <ul style="list-style-type: none"><li>• collect data \$4000</li><li>• analysis 2-3,000 5000-6000</li><li>• asap mid next week late nex week – daytime</li></ul>	<p><u>Wednesday, April 25/07</u></p> <p>5/ Hamilton – asphalt mixes - RHVP</p>
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<u>Friday, April 27/07</u>	<u>Monday, April 30/07</u>
<p><u>Plan:</u> √ 1/ RHVP - mixes</p>	<p>1) RHVP mixes</p> <p><u>Messages</u></p> <p>1/ Friday – Marco 2/ Paul cell (905) 961-2228 office (905) 827-5750 x 225</p> <p>May 16/paving <a href="mailto:philipsrhv@bellnet.ca">philipsrhv@bellnet.ca</a></p>

GOL0007397

IMAGE 25

Tuesday May 1/07

GOL0007397

Lu Hamilton  
RHVP – Andro  
Gary – resurfacing  
sensors

March 2007

2/ RHVP



GOL0007397

*[This page contains a drawing that has not been reproduced here – refer to GOL0007397 at image 27]*

GOL0007397

Friday, May 4/07

2/ RHVP – mix designs

GOL0007397

Thursday, May 10/07

1/ Gary Moore

- QEW

- retainer

- RHVP

- OHMPA – Sandy
- Asphaltotics

5/ RHVP mix designs

GOL0007397

2/ - RHVP – interested – to send it to Lou

Tuesday May 15/07

2/ Gary Moore

Cell (905) 379-7903

- Hamilton | mixes  
paving

GOL0007397

Wednesday May 16/074/ Paving on RHVP on ThursdayTrial test

RHVP FWD

0.4 mm vs 0.9 mm

~~480~~-300 MPa vs 180 MPa

SN 91mm 109mm = 18 mm = 41mm

max 0.35

150 MPa vs 90 MPa

116 mm 136 mm = 20 mm = 46 mm ~ 50 mm

Trial test 3:30 pm tomorrow

Location? By the bridge or upper  
portion.

GOL0007397

<u>Thursday, May 17/07</u>	<u>Friday, May 18/07</u>
<p>√ /6) Hamilton RHVP – FWD – brief report</p> <p>Andro – Hamilton - sampling - suggested – Dufferin Talked to Walter – DCC &amp; OPSS 310 – 2,500t/day/500t = 5 sub lots</p> <p>1 lot = 1 day production Samples every 500t From – currently – not plate sampling – Sampling from the auger – quarter master – 4 buckets to be split on site using a shovel.</p> <p>Tomorrow @ 1:00 pm Client relationship Marco Oddi - RBM</p>	<p>√ 1) RHVP – mix design RBM - Jeremy</p>



GOL0007397

Tuesday, May 22/07

2) Hamilton – mix designs - Imran

Trial strip - memo

3) Hamilton – open cut QEW - LU

<p>Imran Bashir</p> <p>3/ Letters to Hamilton</p> <ul style="list-style-type: none"><li>a) <u>mix designs</u></li><li>b) <u>FWD</u></li></ul>	<p><u>Wednesday, May 23/07</u></p> <p>1/ Hamilton – trial strip on RHVP</p> <p>- interviewed and hired Tom – field tech</p>
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<u>Friday, May 25/07</u>	<u>Monday May 28/07</u>
5/ Andro RBM – plant sample 2.3 % voids       "       (2.2 & 2.4) 1.0% paver	1/ RHVP paving 4 samples for extraction SP 25       1 – plant mix SP 19 RBM 3 – 2 test strip 1 pl

<p>RB M test strip</p> <ul style="list-style-type: none"><li>- mix design – accepted</li><li>- field densities – Low – edge     compaction to be improved     use mix design MRD</li><li>- air voids - <del>acceptable</del>     borderline</li><li>- ac content – borderline</li><li>- SP 25 – volumetrics are OK</li></ul> <p>    Marco</p> <p>Letter to DCC.</p>	
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Tomorrow

- RHVP paving

Tuesday, May 29/07

- SP 25 & SP19 mixes  
for RBM – today correction factors

GOL0007410

IMAGE 1

May 29/2007

to

December 14/2007

GOL0007497

Friday

1/ RHVP

*[This page contains a drawing that has not been reproduced here – refer to GOL0007497 at image 29]*





Verification

RBM, SP 25, SP 19

Monday June 4/07

5/ Site inspection on RHVP project

- ~~stopped~~ did not allow paving against the bridge at ~ 28+500 – granular base was moving – talked to Walter, Peter, Joe, James and Dave
- asked Joe DCC to apply proper tack to the joint – it was too light
- Andro to inspect the site ready for paving before DCC starts.

<p>- discussed check cracking in SP25 mat with Paul Janicas – he suggested SP25 mix JMF adjustment (+3% 19 mm stone – 3% sand); indicated this to Marco Oddi – we will meet tomorrow morning to discuss. Andro to take cores.</p> <p>Golder RHVP office – filing system, camera, trolley, more sieve shaker</p>	<p style="text-align: center;"><u>Tuesday June 5/07</u></p> <p>1/ RHVP – inspection – Andro took a day off - talking to Thomas – <u>inspection with Marco and Walter</u> –</p> <p style="text-align: center;"><u>SP25 – check cracking</u></p> <p>7/ Hamilton – instrumentation 8/</p> <p style="text-align: center;"><u>Wednesday June 6/07</u></p> <p>- Harjit Jawandha h. 905 573 9808 Cell 905 923 2354</p> <p>BSc Civil Eng. field inspection officer subgrade <u>training</u> - RHVP</p>
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<p><u>Thursday, June 7/07</u></p> <p>2/ RHVP</p>	<p>RHVP – going OK</p> <p><u>Friday June 8/07</u></p> <p>2/ RHVP</p>
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<p style="text-align: center;"><u>Monday, June 11/07</u></p> <p>2/ RHVP – RBM on ramps, 3/ Messages - a/ Leo Detchum RBD claim (416) 499 2861 x 317 b/ Andro c/ Paul Lum (416) 706 7373 4/ Reports:  i/ RHVP compaction</p>	<p style="text-align: center;"><u>Tuesday, June 12/07</u></p> <p>- Hamilton – RHVP paving meeting - paving inspection - Trenton – RHVP instrumentation – preparation for MTO meeting</p> <p style="text-align: center;"><u>Wednesday, June 13/07</u></p> <p>2/ City of Hamilton - meeting with Gary Moore</p>
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<p><u>Thursday, June 14/07</u> 2/ RHVP</p>	<p>b/ RHVP – Andro - compaction</p>
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GOL0007410

Monday June 18/07

3/ RHVP – instrumentation –  
talking to Anne Poschmann  
- paving

<u>Wednesday, June 20/07</u> 9/ Hamilton instrumentation	14/ RHVP
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<p><u>Meeting</u></p> <ul style="list-style-type: none"><li>- Hamilton instrumentation ✓</li><li>RHVP - Andro<ul style="list-style-type: none"><li>SP19 done – on the shoulders</li></ul></li><li>NBL – RBM – Tuesday or Wednesday ?</li><li>1 more guy field</li><li>1 more guy field</li></ul> <p>} 2 months</p>	<p><u>Saturday June 23/07</u></p> <p>RHVP visit – 4 hours</p> <ul style="list-style-type: none"><li>- messages<ul style="list-style-type: none"><li>- Imran</li><li>- Marco - instrumentation</li></ul></li></ul>
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GOL0007410

Tuesday, June 26/07

Surface – min

SMA, HL8, HL1, HL3

4/ RHVP - mechanistic testing

5/ Instrumentation

6/ Hamilton - resurfacing

GOL0007410

IMAGE 12

Monday July 9/07

GOL0007410

Meeting - RHVP

SMA –

SP12.5FC2

Material testing correlation.

SMA – week of 30<sup>th</sup>, (25<sup>th</sup>)

test strip – next week

Instrumentation – send an email  
with the sketch.

Unstable areas

Grade – water ponding

by CN bridge

North of Queenston

a/ Paving of SMA – how, in echelon – incl. in test strip

b/ Painting structures with tack coat.

c/ Ramps – no RBM on Mt. Albion

SP12.5FC2 Greenhill & Mt. Albion

Next meeting Aug 14 @ 9:00 am

GOL0007410

IMAGE 14

Thursday, July 12/07

GOL0007410

Projects:

1/ RHVP

- asphalt

√ - instrumentation!

GOL0007410

Monday 16 July/07

1/ RHVP SP25

212 563 2710

Jani Numela

visual inspection ~ 30 mln total

FWD on it

a lot of transverse cracking

newer pricing for us per day

30 mln section, 2 hour each  
direction

Tuesday July 17/07

2/ Whitby

- RHVP – aggregates for SMA
- proposal - Jordan

<p style="text-align: center;"><u>Wednesday, July 18/07</u></p> <p>M 2/ RHVP 4 hrs</p> <p>M</p> <p>M</p> <p>√√ 6/ Instrumentation</p> <p>Tom 847 910 3385 cell Whiman 847 972 3280 desk</p> <p>Daniel Sarry Flury – Qubec DOT</p> <p>Very good aggregates – used in HMA, one of the best aggregates.</p> <p>high volume &lt;15% MD &lt;35 LA</p>	<p><i>[This page contains a drawing that has not been reproduced here – refer to GOL0007410 at image 17]</i></p>
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GOL0007410

Monday July 23/07

- RHVP



GOL0007410

Wednesday July 25/07

1/ RHVP

- SMA test strip
- invoices
- aggregate for SMA & SP12.5 FC2

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<u>Thursday, July 26/07</u>	<u>Friday July 27/07</u>
<p>1/ RHVP LU</p> <p>2/ RHVP instrumentation IB &amp; LU</p>	<p>2/ RHVP</p> <ul style="list-style-type: none"> <li>- SMA test strip (completed on Wednesday) has failed</li> <li>- visit to Hamilton</li> </ul> <p>4/ Meeting on site:</p> <ul style="list-style-type: none"> <li>- inspecting SMA test strip</li> <li>- checking SMA results</li> <li>- meeting with Marco Oddi, James DCC, Andro &amp; LU               <ul style="list-style-type: none"> <li>• showing results &amp; cores</li> <li>• test strip is rejectable – because of gradation failed on 4.75 mm, v. low lab. voids (1.7%, min spec 4) &amp; low compaction.</li> </ul> </li> </ul>

<p><u>Monday, July 30/07</u></p> <p>1/ RHVP</p> <ul style="list-style-type: none"> <li>- paving of SP19</li> <li>- review of SP12.5FC2</li> <li>- other mixes</li> </ul>	<ul style="list-style-type: none"> <li>● 235 4677 Chris Raymond</li> </ul> <p>Judy Pretty (416) 235-3533 - John Chris phone #235 3735 Chris Rogers cell #</p> <p><u>Tuesday, July 31/07</u></p> <p>John Blair (416) 235 3546 LU 1/ Windsor Roy Walsh – SMA Anil Viriani traprock</p> <p>LU + IB 10/ RHVP – Andro</p> <ul style="list-style-type: none"> <li>- SMA - ~7:00 am</li> <li>- Letter</li> <li>- How to lay</li> </ul> <p>Bitumar – it is acid modified with polymer</p> <p>SMA – interim decision to use only selected premium aggregates – no Ontario Trap Rock – 7 sources – 3 or 4 can be used Aecon, MRT, Lafarge Brockville Dolomitic sandstone in the contract they should have old, they probably can, carry over jobs Dave Carter – QA officer   Acid modification</p>
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GOL0007410

<u>Thursday, Aug 2/07</u>	<u>Friday Aug 3/07</u>
1/ RHVP – inspected SMA & FC2 & lab.	1/ RHVP    SMA   S1    6.24 S2    5.85 S3    5.91 S4 <u>5.60</u> 2 trips to Hamilton

GOL0007410

<p style="text-align: center;"><u>Wednesday Aug 8/07</u></p> <p><u>Meeting in Hamilton</u></p> <p>1/ Out of 11 asphalt strain sensors, 5 aren't working. <del>Do they</del> We will try to retrofit them in the SMA.</p> <p>2/ WIM</p> <ul style="list-style-type: none"><li>- piezoelectric</li><li>- Kiesler</li><li>• drilling under pavement and installing the conduits</li><li>• what dia?</li></ul>	<p>Chris Peppin (877)- 747 3487 PD (204) 941 1742</p> <p><i>[This page contains a drawing that has not been reproduced here - refer to GOL0007410 at image 23.]</i></p>
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<u>Wednesday, Aug 15/07</u> 3/ Hamilton	<u>Thursday Aug 16/07</u> 2/ RHVP instrumentation
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Friday, Aug 17/07

8/ RHVP – FC2 short of aggregates,

King Street

√ MTO FC2 –

√ Dofasco – steel slag - waiting for it

1<sup>st</sup> week of Sept. or mid September

√ HL3 high stability mix ← – City approved mix

HL1 steel slag –

↪ Main line shoulders Monday

<p><u>Monday Aug 20/07</u></p> <p>1/ RHVP</p> <p>&gt; 2000 [<i>text could not be confirmed</i>] 1000 traffic</p> <p>travel cost \$3,300/day</p>	<p>6/ Meeting RHVP – Tuesday 9:00 am</p>
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<p style="text-align: center;"><u>Tuesday Aug 21/07</u></p> <p>Meeting in Hamilton</p> <p>1/ Sensors - 2 to be retrofitted - loops and Kistler</p> <p>2/ Asphalt repairs - ramp Queen Street SMA - ramp King Street FC2</p> <p>3/ New mixes - FC 2 Marmora Quarry - HL 3 HS – 64 instead of 58</p> <p>4/ Mix designs approved HL 3HS &amp; steel slag On the shoulder</p> <hr/> <p>3 weeks min sketch to ducts – for the WIM how to connect, where the ducts # of ducts, locations</p>	<p>Next meeting Sept 18 @ 9:00 am</p>
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GOL0007410

Monday Aug 27/07

4/ RHVP

- shoulder HL3HS NBL
- deficiencies
- instrumentation

GOL0007410

Tuesday, Aug 28/07

8/ RHVP expenses

<p style="text-align: center;"><u>Wednesday, Aug 29/07</u></p> <p>Chris Peppin 306 653 9733</p> <p>Roy, Cindy</p> <p>1/ conduits 2" dia, typical site layout standard electrical code no problem with junction box - conduits in NBL &amp; SBL 2/ junction boxes – standard traffic signal boxes</p>	<p>Electrician – Type 2 box with reinforced or steel lead Gravel on the bottom (~1 m) &amp; surrounded by gravel 4 boxes (inside &amp; outside) and one near the connection.</p> <p>3/ delivery – 6 week range – for the electronics</p> <p>road sensors</p> <p>4/ 3-4 nights-days – to install Piezo &amp; Kistler 1 electronic 2 days – calibration</p> <p>5/ What equipment is required for the installation</p> <p>6/ Do we need a submittal – typical &amp; manual</p> <p>road grout, sensors, loops, cables</p> <p>We: junction boxes, concrete cabinet foundation, labour, electrical service, telecommunication service, cabinet 3 x 3 x 6 (4') height - Type II cabinet, standard traffic signal cabinet.</p> <hr style="width: 20%; margin-left: auto; margin-right: 0;"/> <p style="text-align: right;">low voltage</p> <p>electrician on site &amp; labour conduits – how deep – code, PVC or steel – local electrical code</p>
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<ul style="list-style-type: none"><li>- tax exemption letter – the product will be resold to the City of Hamilton – not to pay PST.</li><li>- credit approval.</li><li>- they have representatives in Jim.....lives in St. Catherines</li><li>- calibration – proper truck for calib.</li></ul> <p>5 axle truck with air ride loaded to 80% of the maximum rate</p> <p>may be 10x passes. 1 or 2 days</p> <ul style="list-style-type: none"><li>- we are supplying the truck.</li></ul>	<p style="text-align: center;"><u>Friday, Aug 31/07</u></p>
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<p>Andy Bateman – pavement on RHVP project granular base RBM 80 SP25 70 } SP19 50 } SMA 40 RBM – is it the first</p>	<p><u>Tuesday Sep 4/07</u> RHVP – perpetual pavement – instrumentation - OHMPA</p>
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GOL0007410

Wednesday, Sept 5/07

2/ Hamilton

Friday, Sep 7/07

2/ RHVP – site visit, instrumentation

Monday, Sept 10/07

3/ RHVP – Gary Moore



<p>email.golder.com  Cindy IRD (306) – 653-9357  - install first in road  Kistler, Piezo loops  - electronics – a couple of weeks later    Sep 17 – sensors will be sent Oct. 3, get by Oct 10 – by the end of the week  Sept 21    - electronics Oct 5 – get Oct 11  Oct 9 – get Oct 12  - conduit - now  - everything on the ftp site - early last week  to Imran  Kistler, Piezo  mounting kit  phone line, power, <u>conduit</u></p>	<p>Request from the City of Hamilton  SN – give them location  Frank tomorrow 403  by 3 or 3:30 today.    Give info – closed section, what procedure to follow, close to enter  It is closed area. At the posted speed.    At a slower speed – is possible  Estimate 40 miles/hr, posted speed  a wet test    Monday 10:00 am Gary</p>
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Thursday, Sept 13/07

5/ Marco – SN

spec for RBM

<u>Friday, Sept 14/07</u> 5/ RHVP – instrumentation, costs	<u>Monday, Sept</u> (905) 660-4144 Andy Chris Raymond
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<u>Monday Sept 24/07</u>	6/ RHVP – OHMP bus tour Oct 23 or 24  11/ Instrumentation - RHVP
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GOL0007410

<p><u>Thursday, Sept 27/07</u></p>	<p>23/ Chris Raymond</p> <p>27/ RHVP – bus tour - Marco</p>
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GOL0007410

Friday, Oct 5/07

1/ Sandy (416) 648-5152

Profilograph

1/ check locations –

2/ publicise p.p. concept

& profilograph

3/ program 8:30 am, 9:0 – 1-1.5 hr

Perpetual pav. project

I will want to do – I on design

52 people – 25% consult., 25 municip.

rest contractors, Dufferin

GOL0007410

Wednesday, Oct 10/07

13/ RHVP

- RHVP

<p>2/ <u>Hamilton Instrumentation</u></p> <p>a/ check what we have</p> <p>b/ boxes – CTL –</p> <p>a/ what we have</p> <ul style="list-style-type: none"><li>(1) CTL – sensors</li><li>(2) IRD – traffic (loops, Kistler, Piezo)</li></ul> <p>(1) CTL</p> <ul style="list-style-type: none"><li>(a) boxes?</li><li>(b) heaters?</li><li>(c) fan</li><li>(d) toughbook<ul style="list-style-type: none"><li>- buy – Panasonic</li><li>Toshiba</li></ul></li><li>(e) <u>Tom W.</u></li><li>(f) temp free</li><li>(g) 2 missing asph. sensors</li></ul> <p>b/ installation</p> <ul style="list-style-type: none"><li>(1) CTL</li><li>(2) IRD</li></ul>	<p>LU</p> <p>a/ talk to <u>Marco</u> - profilograph</p> <p>b/ talk to Cindy</p> <p>start on Thursday</p> <p>- Gary <u>Tansley</u></p>
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<u>Thursday, Oct 11/07</u>	<u>Friday, Oct 12/07</u>
5/ RHVP - instrumentation - cost budget	5/ Hamilton

GOL0007410

Friday, Oct 19/07

2/ Hamilton RHVP

GOL0007410

Tuesday, Oct 23/07

1/ RHVP OHMPA bus tour

GOL0007410

Monday, Oct 29/06

1/ Hamilton

- letter about additional costs
- expenses
- instrumentation

<u>Tuesday, Oct 30/07</u>	<u>Wednesday, Oct 31/07</u>
<p>3/ RHVP instrumentation</p> <ul style="list-style-type: none"><li>- Roy &amp; Chris &amp; Andrew</li><li>- data services</li><li>- IRD – download data &amp; reports on a weekly basis</li><li>- downloading every day, report at the beginning of the following week</li><li>- they can answer simply</li><li>- they can be provided with the tools for the City to do it themselves</li></ul>	<p>2/ RHVP – costs, instrumentation</p>



GOL0007410

<p>collect pav. response based on traffic</p> <p># of ways of doing – synchronization of clocks or GPS clock or somewhat</p> <p>advise – log on to the system – time stamp - set the clock</p> <p>clock on a tough book to be synchronized with traffic systems</p> <p>calibration – when installed.</p> <p>el. – heating element in the box – from MacMaster Car or Hoffmans and Closures -thermostatically controlled heating system</p> <p>make sure that everything is working, Eathernet connection</p> <p>do we need a backup power – on line to collect data</p> <p>datalogger collects data continuously</p> <p>They maintain system &amp; collect data - maintenance – - data collection – download,</p>	<p>a few hundred \$ every week.</p> <p>data logger – operating temp. range</p> <p>DI - 785</p>
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<u>Thursday Nov 8/07</u>	
<p>RHVP</p> <p>1/ Photos for OHMPA presentation</p> <p>2/ Traffic system</p> <ul style="list-style-type: none"> <li>- track &amp; calibration</li> <li>- Jim or Cindy or Chris or Abid IRD manuals, programs</li> <li>- keys</li> </ul> <p>3/ Pavement system</p> <ul style="list-style-type: none"> <li>- Len               <ul style="list-style-type: none"> <li>a/ wire extension</li> <li>b/ data logger</li> <li>c/ fibre optics connection</li> <li>d/ power</li> <li>e/ Tom Weinman -</li> </ul> </li> </ul> <p>final connection &amp; system setup correlation between traffic &amp; pav. systems – synchronized clocks.</p>	<p>f/ heater</p> <p>g/ toughbook</p>



GOL0007410

Tuesday Nov  
- RHVP

GOL0007410

<p><u>Monday, Nov 26/07</u></p> <p>5/ RHVP instrumentation</p> <ul style="list-style-type: none"><li>- IRD</li><li>- CTL</li></ul>	<p>17/ City of Hamilton</p> <ul style="list-style-type: none"><li>- pavement management</li><li>- RHVP – Philips<ul style="list-style-type: none"><li>- instrumentation – traffic</li><li>- pavement</li></ul></li></ul>
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GOL0007410

Friday, Nov 30/07

2/ Hamilton – traffic/count

GOL0007410

Monday, Dec 3/07

6/ RHVP – traffic & pavement

3/ Gary Kirchknopf – reception (905) 540 5920

Tanya - 5675

<u>Tuesday, Dec 5/07</u>	<u>Wednesday, Dec 6/07</u>
<p>1/ RHVP</p> <p>Len - <u>Fibrewires</u> – coming today to hook it up this morning</p> <p>Tomorrow – <u>10:00 am</u>, call him give them an IP address or access to a post on a network.</p> <p>They should tell how to access this data.</p> <p>How about the convertor, lthernet – we need a connection. What kind of network they have?</p> <p>Tanya after 1:00 pm</p> <p>Public Works</p> <p><u>Imran 647-886-8256</u></p> <p>Jim IRD – (519) 239-4194</p> <p>Len – software heater</p> <p>Messages: - Jim Worchowski IRD Abid can download</p> <p>- Imran</p>	<p>1/ Abid (416) 557-5749 cell</p> <p>ftp. IRDInc.com</p> <p>2 main folder</p> <p>received from IRD</p> <p>- Hamilton vehicle record</p> <p>lanalyze – 2 software CDs</p> <p>ftp - to download</p> <p>Cindy Mantie (306) 653-9357</p>

<p><i>[This page contains a drawing that has not been reproduced here – refer to GOL0007410 at image 55]</i></p> <p>pressure gauges moisture temperature asphalt strain gauges</p>	<p><u>Friday, Dec 7/07</u></p> <p>v 4/ Hamilton</p>
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GOL0007410

Monday, Dec 17/07

1/ RHVP – instrumentation    Imran – call Marco Oddi

GOL0007410

Andro – Site Supervisor

1A/ Health and Safety

1B/ Shift splits

2/ Time control – 8 hrs/day, max 10 hrs/day

absolutely max 60 hrs/week

3/ Budget control

- keep a record of extra costs, changes, etc.

4/ Maintaining log books

- keeping record of meetings, agreements, changes

5/ Laboratory control

- samples logging

- what testing to be done

- procedures are followed

- testing

- mix (gradation, ac content, air voids, % Gmm @Nini, VMA

- ac • mechanistic properties

- turn around time 24 hours

6/ Field work control

- sections and layers paved on a particular day

<p>- testing</p> <ul style="list-style-type: none"> <li>- field compaction – Nuke</li> <li>- coring – Nuke correction</li> </ul>	station from to		<ul style="list-style-type: none"> <li>- sampling</li> <li>- underlying layer</li> <li>- tacking, joints</li> </ul>
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- quality of paving – underlying layer, mat inspection, starting

7/ Office work control

- reporting

- results are typed, checked & reported

- turnaround time 24 hrs

- attending meetings

- keeping LU informed

- timesheets & expenses

- necessary supplies (paper, boxes etc....)



Jan 2/2008

to

April 07/2009

GOL0007413

Wednesday, Jan 2/08

3/ Hamilton – instrumentation

- pavement

16/ Hamilton – PMS

GOL0007413

Thursday Jan 10/08

8/ Hamilton

GOL0007413

Friday Jan 11/08

6/ Hamilton

<u>Wednesday Jan 23/08</u>	5/ Hamilton! <u>19/ Hamilton! traffic</u>
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GOL0007413

Friday, Jan 25/08

Gary Krishnoff (905) 546-2424 x 7217

Tanya av. week day x 5675

last week

Monday 1:30 pm Gary Krishnoff



<ul style="list-style-type: none"> <li>• pav. design methods 18</li> <li>• pav. evaluation methods 19</li> <li>• site visits – construction, materials 20</li> <li>• advancement in technology 21</li> <li>• adjusting the quality/cost of materials to road type             <ul style="list-style-type: none"> <li>- hma</li> <li>- granulars</li> <li>- concrete?</li> </ul> </li> <li>• review of asphalt mixes 23</li> <li>• pavement noise – how to reduce 24</li> <li>• porous pavements? 25</li> <li>• <u>sustainable pavements</u> – aspects to consider in design and construction 26</li> <li>• <u>pollution during construction</u> 20</li> <li>• <u>QC/QA procedures, program</u> 29</li> <li>• pav. rehab – contractor availability</li> <li>• data management 30</li> <li>• underground utilities – inspection Miss. 31</li> <li>• do they use Superpave Miss.             <ul style="list-style-type: none"> <li>- Traffic monitoring station/system</li> <li>- Pavement monitoring sysem</li> </ul> </li> </ul> <p>-----</p> <p>Current situation          PCI – how it is used, does it reflect the condition?          To know you are doing the best practices.</p>	<p>Use of steel slag in Hamilton pavements – tech. paper √          Dofasco</p> <hr/> <p>Proposal – outline</p> <hr/> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">                 How much  <u>Over 1 or 2 years</u> </td> <td style="width: 50%; padding: 5px;">                 Pav. specs review, reflect local conditions, SPs – which ones to use                  staff – what to focus on             </td> </tr> </table> <hr/> <p><u>System review</u></p> <p>Give them back recommendations, Closer to what they do!</p>	How much <u>Over 1 or 2 years</u>	Pav. specs review, reflect local conditions, SPs – which ones to use staff – what to focus on
How much <u>Over 1 or 2 years</u>	Pav. specs review, reflect local conditions, SPs – which ones to use staff – what to focus on		



<p><u>Tuesday, Feb 5/08</u></p> <p>2/ Hamilton – instr. 3/ Hamilton – proposal</p> <p><u>Thursday, Feb 7/08</u></p> <p>3/ Hamilton – RHVP -- proposal</p>	<p>2/ <u>Proposal for Hamilton</u></p>
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<p><i>[This page contains a drawing that has not been reproduced here – refer to GOL0007413 at image 10]</i></p>	<p><u>Friday, Feb 8</u> 1/ Hamilton</p>
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GOL0007413

Monday, Feb 11/08

5/ RHVP

- Len

GOL0007427

Tuesday, Feb 12/08

- Len
- Rich Dale – Halton
- Steve Damp

- Peter Gamble

GOL0007413

Friday, Feb 15/08

1/ Toughbook

2/ Site access

3/ Schedule time

- IRD
- Weinman, electric
- 3 outlets – power
- connection
- junction box and temp. probes in spring connection
- power bar
- Tom
- send diagram to Len & Abid
- has the Toughbook to be open
- thermostat is not working – toughbook [*text could not be confirmed*] truck

4/ Calibration/correlation

Len - Monday

Tuesday Monday, Feb 19/08	7/ Gary Moore
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<p>Thursday, Feb 21/08 - Hamilton</p>	<p>Friday, Feb 22/08 - Hamilton RHVP – connecting the instrumentation</p> <p>- messages</p> <ul style="list-style-type: none"> <li>• IRD – TMG camera/video Dan Boney</li> <li>• (306) 653 6828 – is already there</li> <li>• Adnan – CD Auto POL } – processor – time</li> <li>• Tanya } server</li> </ul> <p>How do they stamp the time # of seconds – time server Internally – how – windows time Server with 3 to 4 seconds</p> <p>Conference call IRD &amp; CTL &amp; Golder</p> <p>info in real time – based on what I receive forget time info - record time in the laptop camera – cost [<i>text could not be confirmed</i>] \$5,000 10,000</p>
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<p><u>Tuesday, Feb 26/08</u> 1/ City of Hamilton - traffic</p>	<p><i>[This page contains a drawing that has not been reproduced here – refer to GOL0007413 at image 15]</i></p>
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GOL0007413

1/ Specifications for the loops and  
the sensors – get from IRD.

2/ Maintenance

3/ Contact information  
warranty

4/

Wednesday, Feb 27/08

7/ Outline – Hamilton

8/ RHVP instrumentation

- outside modem
- heater & insulation in the IRD box
- time synchronization
- how to analyze the pavement data - program

GOL0007413

Thursday, Feb 28/08

1/ RHVP – instrumentation

Friday, Feb 29/08

LU 6/ Gary Moore - outline

LU 7/ RHVP

- IRD invoice
- outside modem
- specifications, warranties, software
- presentation

17/ Peter Gamble - Dufferin

<u>Tuesday, Mar 4/08</u>	Tanya McKenna – Hamilton ext. 5675
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GOL0007413

<p><u>Hamilton</u></p> <p>1/ Pavement type selection</p> <ul style="list-style-type: none"> <li>- alternative cost estimates</li> <li>- life cycle cost analysis (present worth, discount rate) costs)</li> </ul> <p>2/ Pavement structural design matrix AADT vs subgrade modules</p> <p>3/ Pav. design considerations</p> <ul style="list-style-type: none"> <li>- flexible             <ul style="list-style-type: none"> <li>• Fatigue cracking, rutting</li> <li>• Superpave mixes / vs Marshall mixes</li> </ul> </li> <li>- concrete and composite – reflective cracking</li> </ul> <p>4/ <del>Tack coat</del></p> <ul style="list-style-type: none"> <li>- granular base</li> </ul> <p>Gran B type I and II, RCC</p> <ul style="list-style-type: none"> <li>- drainage             <ul style="list-style-type: none"> <li>• surface &amp; subsurface</li> </ul> </li> <li>- sensitive soils             <ul style="list-style-type: none"> <li>• fine sand &amp; silt – frost susceptible</li> </ul> </li> <li>- geosynthetics</li> <li>- transition treatments (widening, bus bays, turn tapers)</li> <li>- perpetual pavement</li> <li>- maintenance and rehabilitations             <ul style="list-style-type: none"> <li>• utility cuts</li> <li>• appropriate maintenance/rehab at the right location &amp; time</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• remaining life of pavement structure</li> </ul> <p>4/ Tack coat</p> <p>5/ Pavement preservation strategies – selection</p> <ul style="list-style-type: none"> <li>- pavement condition - distresses</li> <li>- timing</li> <li>- right treatment/right location/right time</li> </ul> <p>6/ Whole life maintenance plans</p> <p>7/ <del>Paveu</del> - pavement performance models</p> <ul style="list-style-type: none"> <li>- local conditions – traffic/ structure/ environment</li> <li>- pavement quality indexes (PQI) or other indices</li> </ul> <p>7/ Road types</p> <ul style="list-style-type: none"> <li>- major and minor arterial</li> <li>- local major &amp; minor collectors</li> <li>- residential</li> </ul> <p>8/ Technology improvements</p> <ul style="list-style-type: none"> <li>- premium asphalts, SMA, superpave, perpetual pavement, <u>smoothness</u>, pavement improved pav. construction (MTV, infrared) end result specifications, construction of joints, noise.</li> </ul> <p>9/ Pavement loading</p> <ul style="list-style-type: none"> <li>- overloading on RHVP &amp; Linc</li> <li>- speed</li> </ul> <p>10/ Expected life of overlays – Ontario 12 yrs.</p> <p>11/ Pavement smoothness</p> <ul style="list-style-type: none"> <li>- initial – pavement quality (reduces dynamic forces)</li> </ul> <p>12/ Impact of utility cuts on pavement quality – pav deterioration</p>
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<p>13/ Improved asphalt construction techniques</p> <ul style="list-style-type: none"> <li>- distresses (ravelling, alligator cracking, longitudinal cracking, roughness &amp; smoothness, rutting)</li> <li>- joints, seperation, compaction, roughness</li> <li>- infrared imaging – for better compaction</li> <li>- lift thicknesses</li> <li>- joints – echelon paving, paving full width, joint heaters, saved joints, staggering joints to lifts, joint adhesive, proper rolling.</li> </ul> <p>14/ User costs</p> <ul style="list-style-type: none"> <li>- construction delay</li> <li>- vehicle operating costs</li> <li>- collision costs</li> <li>- environmental costs (pollution, noise, GHE)</li> </ul> <p>15/ Noise</p> <ul style="list-style-type: none"> <li>- noise barrier</li> <li>- quite mixes</li> </ul> <p>10/ Indices</p> <ul style="list-style-type: none"> <li>- PCI</li> <li>- PSR pavement variability rating</li> <li>- RCR – ride <del>condition</del> comfort rating</li> <li>- IRI – recommended terminal values initial &amp; termination</li> </ul>	<p>17/ Cost estimates</p> <p>18/ Linking design, pavement performance and construction</p> <ul style="list-style-type: none"> <li>- as constructed pavement condition</li> <li>- planning/design/maintenance/pavement evaluation</li> <li>- planning PMS type/location/time</li> <li>- design functional/ structural/ drainage/ environment</li> <li>- maintenance preventive treatment, connection to construction deficiencies, - evaluation diagnostics for determination</li> </ul> <p>19/ Data acquisition and management</p> <p>20/ HMA – ac, aggregates (limestone, steel slag, traprock) granular materials – A, B Type I and II</p>
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GOL0007413

Friday, March 8/08

4/ RHVP – talking to Adnan Husein

7/ HAMILTON

<u>Monday, March 10/08</u>	- Gary Moore – City of Hamilton
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<p style="text-align: center;"><u>Tuesday, March 11/08</u></p> <p>1/ Hamilton</p> <ul style="list-style-type: none"><li>- instrumentation</li><li>- network</li><li>- CTAA paper</li><li>- TAC papers</li></ul> <p style="text-align: center;"><u>Wednesday, March 12/08</u></p>	<p style="text-align: center;"><u>Thursday, March 13/08</u></p> <p>1/ Hamilton</p> <p>Meeting with Gary</p> <p>technical papers</p> <p>TAC – Sustainability</p> <ul style="list-style-type: none"><li>- Design – send to Gary</li></ul> <p>- Rehab. projects</p> <p>-</p>
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<p>IDSS – integrated road study</p> <p>the biggest point – they are probably need \$60 mln spend \$30mln</p> <p>RQI or RDI Arterial, no development (water, sewer) \$90-100 incl total</p> <p>Don't have a handle – start to use with the Superpave</p> <p>Biggest need     They are doing correctly     pav. design</p> <p>working backwards - analysis – off the shelf designs vs specific designs</p> <p>Identifying the work at the right stage</p> <p>6500 – lane km</p>	<p>Look at the Presence on site. warm asphalt technology</p> <p style="text-align: center;"><u>Friday, March 14/08</u></p> <p>2/ Hamilton</p>
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<u>Tuesday, March 18/08</u>	<u>Wednesday, March 19/08</u>
1/ Hamilton – pav. tech. review	2/ Hamilton

GOL0007413

Tuesday, March 25/08

4/ Slides RHVP project

APA

(416) 768-8199

2/ Hamilton

<u>Thursday, April 3/08</u>	3/ Hamilton
3/ Hamilton	
<u>Friday, April 4/08</u>	

GOL0007413

Tuesday, April 8/08

1/ Hamilton – meeting with Gary

GOL0007413

IMAGE 30

Monday, April 14/08

<p>Program:</p> <p><u>Monday</u> - Hamilton</p>	<p style="text-align: center;"><u>Tuesday, April 15/08</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Philips a/ \$393,420.00 replaced with \$487,585.00</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>Inst. WIM b/</td> <td style="text-align: right;">\$ 99,500.00</td> <td style="border-left: 1px solid black;"></td> <td></td> </tr> <tr> <td>pav. response c/</td> <td style="text-align: right;">\$ 93,600.00</td> <td style="border-left: 1px solid black;"></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right;"><u>Σ\$680,685.00</u></td> <td style="border-left: 1px solid black;"></td> <td style="text-align: right;">\$193,100</td> </tr> </table>	Philips a/ \$393,420.00 replaced with \$487,585.00				Inst. WIM b/	\$ 99,500.00			pav. response c/	\$ 93,600.00				<u>Σ\$680,685.00</u>		\$193,100
Philips a/ \$393,420.00 replaced with \$487,585.00																	
Inst. WIM b/	\$ 99,500.00																
pav. response c/	\$ 93,600.00																
	<u>Σ\$680,685.00</u>		\$193,100														



GOL0007413

Tuesday, April 29/08

2/ Gary Moore

GOL0007413

Wednesday, April 30/08

6/ Gary Moore

GOL0007413

IMAGE 34

Wednesday May 7/08

<p>3/ - <u>RHVP</u> – Gary Tansley – CCE Award package</p>	<p><u>Friday, May 9/08</u> 1/ RHVP paper</p>
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GOL0007413

Thursday, May 29/08

1/ Messages

- Marko Odi – Tuesday Manhole – building
- connection – Monday Weinman to  
move the antenna  
905 546 2424 ext 2387
- Kevin – Queens Line is finished –  
not too close to the shoulder
- Dave Hein

2/ Tanya – send me field notes.

<u>Friday, May 30/08</u>	Hamilton
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GOL0007413

Thursday, ~~Whitby~~ May 06/08

2/ messages

c/ Gary Moore 2382

GOL0007413

Monday, June 9/08

2

1 c/ Hamilton



GOL0007413

Thursday, June 12/08

6/ Carl Friesen RHVP

Gary Moore

Thursday, June 19/08

3/ Hamilton – meeting with Gary Moore

a/ RHVP instrumentation

- connecting temp. trees & other sensors
- CTL calibration
- analysis →
- synchronization

b/ pav. technology review

- Gary on vacation first 2 weeks of August  
4.5 bln dollars  
25 yr basis, 100 mln /yr  
this yr \$25  
60% below 50  
overall 40-50

GOL0007413

IMAGE 41

Friday, June 20/08

3/ Hamilton – meeting –

GOL0007413

IMAGE 42

Thursday, July 3/08

GOL0007413

Gary Moore

300 – pulverizing

160 HL8, 40mm HL3

GOL0007413

IMAGE 44

Tuesday, July 8/08

GOL0007413

1/ Hamilton

- instrumentation – traffic
  - pavement response
- pav. technology review      John/Dash
- close construction

<p><u>Tuesday, July 15/08</u></p>	<p><u>John Watkins</u></p> <p>a/ City of Hamilton Thursday – no good for John email to Gary – start Friday - agenda</p> <ul style="list-style-type: none"><li>• introduction</li><li>• objectives of the meeting &amp; review</li><li>• actions required – person, date</li><li>• procedures, specifications</li><li>• pavement performance vs. QC/QA condition inspection</li><li>• ex. roads, constru. records, - QC/QA, field &amp; lab.</li><li>• place in Hamilton</li><li>• Closure</li></ul>
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<p style="text-align: center;"><u>Monday July 28/08</u></p> <p>Meeting with Gary</p> <p>1/ Contacts - mats, specs, construction locations</p> <p>2/ Locations for initial inspections - permits?</p> <p>3/ Technologies</p> <p>4/ Their opinion</p> <p>5/ Their constr. inspection</p> <p>6/ Training – inspectors, students</p> <p>7/ QC/QA</p> <p>8/ Construction deficiencies</p> <p>9/ Steel slag</p>	<p>10/ Keeping records for QC/QA – access</p> <p>11/ Quality objectives</p> <ul style="list-style-type: none"> <li>• individuals</li> <li>• lab &amp; field</li> </ul> <p>12/ Construction practice</p> <p style="padding-left: 20px;">- joints</p> <p>Gary – Manager of</p> <p>Mix specs – Marco</p> <p>Annual contract – every 3 yrs</p> <p>11 inspectors</p>
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GOL0007413

Tuesday, August 12/08

3/ Meetings

- Hamilton

GOL0007413

Monday, Sept 15/08

7/ Hamilton – technology review – John Watkins

19/ Hamilton – instrumentation

20/

GOL0007413

Wednesday, Sept 17/08

Gary Moore

GOL0007413

Friday, Oct 3/08

- Gary – ~~Gerd~~ Hamilton

GOL0007413

Friday, Oct 17/08

3/ Gary – instrumentation

GOL0007413

Tuesday, Oct 21/08

2/ Hamilton – instrumentation

Monday, Nov 3/08

3/ Gary Moore

GOL0007413

Wednesday, Nov 5/08

3/ Hamilton - Review



<u>Monday, Dec 1/08</u> 7/ Hamilton Tech. Review	<u>Wednesday, Dec 3/08</u> Hamilton
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GOL0007413

Monday, Dec 8/08

1/ Hamilton

<u>Friday, Dec 12/08</u>	<u>Monday, Dec 15/08</u>
12/ Hamilton - instrumentation - pav. technology review	2/ Talked to Anne  - Hamilton  3/

GOL0007413

IMAGE 58

Monday, Jan 5/09

GOL0007413

2/ Hamilton – technology review

<u>Wednesday, Jan 7/08</u> 3/ Hamilton review	<u>This week</u> - Hamilton – tech. review - summary
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GOL0007413

Friday, Jan 16/09

1/ HAMILTON

GOL0007413

Friday, Jan 23/09

1/ Hamilton

Monday, Jan 26/09

2/ Hamilton – design – ext 07



GOL0007413

Wednesday, Jan 28/09

2/ Hamilton

GOL0007413

IMAGE 64

Thursday, Feb 19/09

4/ Hamilton

GOL0007413

IMAGE 65

Tuesday, Feb 24/09

<p>5/ Hamilton</p> <p><u>Wednesday, Feb 25/09</u></p> <p>2/ Hamilton tech. review</p> <p><u>Thursday, Feb 26/09</u></p> <p>2/ Hamilton review</p> <p><u>Friday, Feb 27/09</u></p> <p>4/ Hamilton</p>	<p><u>Monday, March 2/09</u></p> <p>2/ Hamilton - Vimy</p>
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GOL0007413

Thursday, March 26/09

3/ Hamilton – Tanya

4/

<u>Monday, March 30/09</u>	<u>Tuesday, March 31/09</u>
3/ Gary Moore - QEW – cost upgrade - Technology - Traffic - CTAA/TAC	1/ Gary Moore a/ - QEW - additional pipe

GOL0007413

Monday, April 6/09

1/ Meeting with Gary

Jan 5/09

to

Aug 21/09



GOL0007401

January 6

3/ Hamilton

- technology review

- open cut

January 7 2/ technology review <u>Hamilton</u>	January 8 1/ technology review - Hamilton
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GOL0007401

January 12

7/ Hamilton - summary

<p>January 15</p> <p>2/ Hamilton tech. review</p> <p>3/</p>	<p>January 16</p> <p>1/ 9:00 am Gary Moore meeting with →</p>
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GOL0007401

January 27

3/ Hamilton

January 29 7/ Hamilton 8/	January 30 1/ Hamilton
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February 23 4/ Hamilton - review - research	February 24 5/ Hamilton
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February 25 1/ Hamilton	February 26 Hamilton
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GOL0007401

March 11

2/ RHVP Instrumentation

March 25 4/ Hamilton WIM	March 26 3/ Hamilton – Tanya 5/
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GOL0007401

March 27

4/ Hamilton WIM

GOL0007401

March 31

1/ Hamilton

GOL0007401

April 2

3/ Hamilton

GOL0007401

April 20

- Hamilton - WIM

GOL0007401

April 24

3/ Hamilton

GOL0007401

May 1

4/ Hamilton

5/



May 13	May 14
1/ Gary – spec.	2/ Gary – spec.
3/	4/

April 8/09

to

Feb 2/10

GOL0007396

Hamilton

<p><u>Thursday, April 23/09</u></p>	<p><u>Friday, April 24/09</u></p> <p><u>Monday, April 27/09</u></p> <p><u>Tuesday, April 28/09</u></p> <p>3/ Message: - Gary – interim status report – next week</p>
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<p><u>Thursday, May 21/09</u></p> <p><u>4/ Hamilton</u></p>	<p>Projects &amp; Proposals</p> <p>2/ Hamilton – tech. review Phase 1</p> <p>18/ Hamilton – Phase 2</p> <p>19/ Hamilton – traffic</p> <p>22/ Hamilton – pav. response</p>
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<p style="text-align: center;"><u>Thursday, May 28/09</u></p> <p>- Hamilton -</p>	<p style="text-align: center;"><u>Friday, May 29/09</u></p> <p>5/ Gary Moore - TAC paper - CTAA – papers</p> <p style="text-align: center;"><u>Monday, June 1/09</u></p> <p>4/ Technology review - Hamilton</p>
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GOL0007396

Friday, July 10/09

Monday, July 13/09

2/ Hamilton

Tuesday, July 14/09

1/ Hamilton

<p><u>Friday, July 16/09</u></p>	<p><u>Monday, July 20/09</u> <u>Tuesday, July 21/09</u> 2/ Hamilton</p>
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<p><u>Thursday, July 23/09</u></p> <p>1/ Hamilton</p>	<p><u>Friday, July 24/09</u></p>
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GOL0007396

6/ Hamilton

7/

GOL0007396

Monday, 27 July/09

2/ Hamilton

<u>Tuesday, July 28/09</u>	<u>Wednesday, July 29/09</u> 4/ Gary Moore
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GOL0007396

Tuesday, Aug 25/09

Wednesday, Aug 26/09

3/ Hamilton – traffic

message:

- Susan

GOL0007396

Thursday, Aug 27/09

- Gary Moore!

GOL0007396

Monday, Aug 31/09

1/ Gary Moore

- ~~initial~~ preliminary report
- traffic
- paper – presentation
- analysis

- proposal for Phase 2

Wednesday afternoon 3 pm

\$6,800

<p><u>Tuesday, Sept 1/09</u></p>	<p><u>Meeting with ACB</u></p> <p>1/ Hamilton Phase I Phase II &amp; pav. designs</p>
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GOL0007396

Wednesday, Sep 2/09

5/ Hamilton

GOL0007396

Friday, Sep 4/09

2/ Hamilton

GOL0007396

Tuesday,

2/ Meeting with Gary Moore

a/ report for Phase I    how to detect excessive

what

b/ what to do in Phase II

review and  
recommendations  
then work plan  
and change  
specs

c/ technical papers ✓

- TAC

- CTAA

- ISAP

- Chile

-

full day presentation  
for Gary's staff

Wednesday 16th

Dufferin – Marco – MRC constr. supervision Jan Basinger

g/ analysis - \$6,800

93600 – 83,6 – 5000 contingency

still \$14,000

traffic monitoring \$2,500

✓  
King St NB  
Barton SB  
RHV to Mud  
street  
ramp

h/ problems observed on the RHVP

- deeps - cracks – ditches – pothole – sealing the sensors

GOL0007396

Thursday, Sep 17/09

Plan:

1/ Hamilton

GOL0007396

Wednesday, Sep 23/09

2/ Hamilton report!

Thursday, Sep 24/09

3/ Hamilton

GOL0007396

Wednesday, September 30/09

3/ Hamilton!

GOL0007396

Tuesday, Oct 13/09

3/ Hamilton

Friday, Oct 23/09 <u>4/ Hamilton</u>	<u>Monday, Oct 26/09</u>
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GOL0007396

Thursday, Nov 5/09

1/ Hamilton

GOL0007396

Friday, Nov 13/09

Meeting with Gary

√ 1/ Draft report

<p><u>Tuesday, Nov 24/09</u></p>	<p><u>Wednesday, Nov 25/09</u></p> <p><u>Thursday, Nov 26/09</u></p> <p><u>Friday Nov 27/09</u></p> <p>5/ Hamilton – Gary</p> <p>6/</p>
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<p>2/</p> <p><u>Tuesday, Dec 8/09</u></p> <p><u>Wednesday, Dec 9/09</u></p>	<p><u>Thursday, Dec 10/09</u></p> <p>2/ Gary Moore Dec 15 Tuesday @ 8:30 am</p>
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<p><u>Monday, Dec 14/09</u></p> <p><u>Tuesday, Dec 15/09</u></p> <p>1/ Meeting with Gary Moore  a/ Phase I report  b/ Phase II</p> <p>d/ technical papers – Nagoya  e/ RHVP  f/ meeting with municipalities</p> <p>h/ pav. presentation</p>	<p>a/ QC vs QA  Gary's job &lt;3000 t, 3 or 4 blocks long</p> <p>&lt; 10,000t no borderline</p> <p>What range  Specifying ac content for bidding  Bid or 4.9%  If 5.1 they will pay  4.7 City will cut the pay</p> <p>b/ no more Marshall, no HM mixes  development</p> <p>c/ specify  pavement design</p> <p>e/ HL1 vs HM3  FC2  FC2 – premium aggregate  FC1 – prime or Hamilton  FC  better than FC1 but not the premium  if you meet the physical properties</p> <p>Hamilton blend  FC1 \$85/t FC2 \$120/t - problem</p>
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<p>How to make sure what is in the mix – what aggregate.</p> <p>Control of RAP amount in the mix.</p> <p>Workshop</p> <p>Diagram of plant – what bins, stockpiles.</p> <p>Borderline 0.2, rejectable 0.3</p> <p>FC1 plus – 100 crushed with the same properties as FC1</p> <p>SMA with quality limestone aggregate</p> <hr/> <p>pav. design</p> <p>residential roads          rock – only 300mm granular          Ancaster – 0.5 mm of stone</p> <p>upgrade a matrix</p> <p>major roads – pav. design</p>	<p>designated truck road – this regular - that</p> <p>Send Gary a table</p> <ul style="list-style-type: none"> <li>- for – RHVP - \$2500 PO 39034 – pav.monitoring</li> <li>- Phase 1 asp. tech PO 47780 \$2,000</li> <li>- open cut \$5,845 PO 48342</li> <li>- change order 2006 5,567 → PO 32413</li> </ul> <hr/> <p>Nov 2011 Chile asset management          7<sup>th</sup> International Conference on          Managing Pavement Assets          ICMPA 2011 Chile          15-19 Nov 2011          Paper abstracts June 2010</p> <hr/> <p>\$4.6 billion          If every 20 years – 4% a year on          capital upgrade- \$160 mln /yr          \$32 mln – current budget</p> <hr/> <p>IDSS model – risk based</p>
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<u>Wednesday, Dec 16/09</u>	<u>Friday, Dec 18/09</u>
<u>Thursday, Dec 17/09</u>	1/ Hamilton – Tracy Tattle 3203

GOL0007396

IMAGE 31

Friday, Jan 22/10



GOL0007396

Tuesday, Jan 26/10

Phase I – same @ contingency

Phase II – meeting with Gary –  
Monday @ Friday Feb 5<sup>th</sup>  
@ 9:00 am

Susan, Jerry

- sustainability

GOL0007396

- RHVP analysis – case study

Presentation at TAC

- Hamilton supportive – what info needed

GOL0007396

Friday, Jan 29/10

5/ Proposals

- Hamilton

GOL0007396

IMAGE 35

Tuesday, Feb 2/10

GOL0007393

IMAGE

Feb 7/10

to

Dec 8/10

GOL0007393

IMAGE 2

Monday Feb 8/10

GOL0007393

Wednesday, Feb 17/10

3/ Hamilton

GOL0007393

Thursday, Feb 18/10

1/ Hamilton – meeting

Steel slag – only Dofasco

\$24/t

OPSS

Tack coat

*[This page contains a drawing that has not been reproduced here – refer to GOL0007393 at image 4]*

Friday, Feb 19/10



4/ Hamilton	<u>Friday, Feb 26/10</u>
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GOL0007393

2/ Hamilton – proposal LU

I0 1184 0021

PO 1184 0021

GOL0007393

Monday, March 8/10

3/ Hamilton

GOL0007393

Tuesday, March 9/10

3/ Hamilton

GOL0007393

Monday, March 15/10

- Hamilton ? !!!

<p><u>Wednesday, March 17/10</u></p> <p>1/ <u>Hamilton</u></p> <p><u>Thursday, March 18/10</u></p> <p>2/ Hamilton</p>	<p><u>Friday, March 19/10</u></p> <p>6/ Hamilton</p>
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GOL0007393

Tuesday, March 23/10

1/ Messages:

- Marco Cicconi ext 2426 April 6

8:30 am or 9:00 am

GOL0007393

WLI 2/ Hamilton



<u>Monday, April 5/10</u>	<u>Tuesday, April 6/10</u>
1/ Hamilton	1/ Hamilton - training

GOL0007393

Tuesday, Apr 13/10

12/ Hamilton

GOL0007393

Wednesday, April 14/10

1/ Hamilton - Chris

GOL0007393

Friday, May 7/10

3/ Hamilton

GOL0007393

Thursday, May 13/10

4/ City of Hamilton

GOL0007393

A/ 1/ City of Hamilton

GOL0007393

IMAGE 19

Friday, June 4/10

<p>4/ Hamilton</p> <p><u>Monday, June 7/10</u></p> <p>1/ Hamilton</p>	<p><u>Tuesday, June 8/10</u></p> <p>3/ Hamilton</p>
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GOL0007393

Thursday, June 10/10

4/ Hamilton

GOL0007393

Friday, June 11/10

4/ Hamilton

GOL0007393

Tuesday, June 15/10

1/ Meeting with Gary Moore

a/ mix qualities

b/ pav. performance

c/ film thickness

d/ ac content

e/ durability

f/ specs

g/ quarries

h/ light coloured aggregates

GOL0007393

Friday, June 18/10

3/ Hamilton

Monday, July 5/10

GOL0007393

IMAGE 25

1/ Hamilton!

GOL0007393

Thursday, July 8/10

6/ Hamilton

GOL0007393

Monday, July 12/10

4/ Hamilton

GOL0007393

Thursday, July 22/10

6/ Hamilton



GOL0007393

IMAGE 29

Thursday, July 29/10

GOL0007393

IMAGE 30

h/ Hamilton

GOL0007393

Monday, Aug 16/10

6/ Hamilton

GOL0007393

Wednesday, Sep 22/10

2/ Vimy

- letter to Hamilton and R of W

GOL0007393

Tuesday, Oct 5/10

8/ Hamilton

GOL0007393

Tuesday, Oct 26/10

1/ Meeting with Gary Moore

- behind the schedule with pav.  
and materials technology review
- 

- LCAP
  - new technologies ↑, porous asphalt, quiet HMA
- 

- ultra thin surfacings
- paper – Chile
- TAC guide

GOL0007412

IMAGE

December 9/10

to

August 10/11

GOL0007412

IMAGE 2

December 9/10



<p>4/ <u>City of Hamilton</u> Pav. Technology Review <u>Lincoln Alexander Parkway</u> <del>2-lif</del> road resurfacing existing 160 mm of HMA = <u>60 mm + 55 mm</u> + 40 mm HL1 added HL8HS 1997 mill 50 mm overlay 50 mm ~\$4.5 million 90 km/h</p> <p>1/ if Superpave – SP12.5FC2 Cat E 70-28 PM</p> <p>Dufferin <u>Miller</u> ac content</p>	<p><u>Friday, Dec 10/10</u></p>
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<p style="text-align: center;"><u>Monday, Dec 13/10</u></p> <p>3/ Hamilton 5/</p> <ul style="list-style-type: none"> <li>- get a copy of the results</li> <li>- talk to Jerry Parisotto             <ul style="list-style-type: none"> <li>• 2010/2011 projects</li> <li>• min/max ac</li> <li>• pavement based on ac</li> <li>• foamed asphalt</li> <li>• RAP in the mix</li> <li>• (905) 977-0777</li> </ul> </li> <li>- meeting with Mike             <ul style="list-style-type: none"> <li>• use PMS – asset management</li> <li>• drive the Linc with Mike</li> </ul> </li> </ul> <p>an annual testing, only roster</p> <ul style="list-style-type: none"> <li>• specifications</li> </ul> <p>FC2 70-28 PMA Virgin or with RAP</p> <p>batch sample test strip</p> <p>(a) ac content for bidding &amp; payment</p> <p>(b) min-ac testing &amp; acceptance</p> <ul style="list-style-type: none"> <li>- 3 days</li> <li>- mix design, verify &amp; back sample</li> <li>- tack coat</li> <li>- milling, cleaning, tacking</li> </ul>	<p>Additional closures – 30→90 lane rentals 2.5→75</p> <p>(c) preconstruction meeting</p> <ul style="list-style-type: none"> <li>• paper work to be done</li> <li>• prepare meeting</li> </ul> <p>(d) milling driving lane &amp; no shoulder echelon paving</p> <p>✓ with Shuttle Buggy measure density at the joint with shoulder</p> <p>(e) after site visit</p> <ul style="list-style-type: none"> <li>• any crack repair</li> <li>• any base repairs</li> <li>•</li> </ul> <p>(f) smoothness</p> <p>(g) segregation</p> <hr/> <p>(h) asphalt mix</p> <ul style="list-style-type: none"> <li>- what materials             <ul style="list-style-type: none"> <li>• aggregates</li> <li>• steel slag?</li> <li>• ac – PG 70-28 PMS</li> <li>• RAP</li> </ul> </li> </ul> <p>(i) what/where mixes, ditches</p> <p>(j) testing, QC/QA</p> <p>(k) compacting testing</p> <ul style="list-style-type: none"> <li>- OPSS or per over</li> <li>- coring or Nuke ✓</li> </ul> <p>6 weekend closures, if more 100,000 [text could not be confirmed] if less you will get [text could not be confirmed]</p>
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<p>(l) geotechnical consultant - experienced person (m) what mixes where or <u>one</u> everywhere (n) drainage, shoulders, ditches (o) frequency of testing, lots/sublots</p> <p>- traffic control - unofficial search – ballpark value of work for 4 weekends ~ 40,000 tons -</p> <hr/> <p>- Deusol – for joint with PCC for transverse joints - joints with the shoulder - send a paper on joint to Mike</p>	Tuesday, Dec 14/10
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GOL0007412

Thursday, Dec 16/10

2/ Meeting in Hamilton:

Gary Moore, Mike Becke, Chris McCafferty

FC2 cat E - \$120

Vymel – soft aggregate

GOL0007412

Site visit – Lincoln Alexander  
Parkway

-

Jenean Pritznow

1<sup>st</sup> section – v. poor surface, structural?

2<sup>nd</sup> OK for overlay

3<sup>rd</sup> – structural issue in the direction  
towards the RHVP

4<sup>th</sup> (until up to the end) – OK for  
the overlay

2 & 4<sup>th</sup> may require localized base repairs  
and some crack repairs

Friday, Dec 17/10

GOL0007412

v 2/ Hamilton

<u>Tuesday, Jan 11/11</u>	<p><u>Meeting with Gary – RAP</u></p> <p>1/ OPSS spec</p> <ul style="list-style-type: none"><li>- municipalities</li><li>- MTO – Chris’s presentation</li></ul> <p>2/ FHWA approach – green technology – RAP</p> <p>3/ Our point of view &amp; concerns</p> <ul style="list-style-type: none"><li>- asphalt is 100% recyclable</li><li>- use:<ul style="list-style-type: none"><li>• HMA, CIR, paved, CIREM, granulars</li><li>• objective</li></ul></li><li>- concerns – good quality RAP – millings from the Linc on Linc resurfacing</li><li>- concerns – no control of the amount of RAP added, blending of AC’s</li><li>- compromising performance<ul style="list-style-type: none"><li>• early (preventive) ravelling, durability, cracking,</li><li>• field examples</li></ul></li><li>- RAP quality – gradation, moisture, ac, consistency</li></ul> <p>4/ Our approach</p> <ul style="list-style-type: none"><li>- OPSS Muni 1151<ul style="list-style-type: none"><li>• 15% in surface course</li><li>• 30% in binder course?</li></ul></li><li>- use softer grade if required (or rejuvenator)</li></ul>
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GOL0007412

<ul style="list-style-type: none"> <li>- plant production inspection/control</li> <li>- lab. test of amount of RAP not available yet             <ul style="list-style-type: none"> <li>• performance of HMA? no chance</li> <li>• recovered ac testing – Dr. John D’Angele – FHWA</li> </ul> </li> <li>- using mix RAP in foamed asphalt up to 100%</li> </ul> <p>5/ Summary</p> <ul style="list-style-type: none"> <li>- asphalt is 100% recyclable use it in asphalt or stabilized layers to take advantage of AC present, remaining RAP in granular layers</li> <li>- we cannot compromise pavement performance</li> <li>- introduce production inspection/control</li> <li>- monitor RAP quality</li> <li>- Superpave include excellent PG testing and grading system – we don’t want to loose it by adding too much unknown components</li> <li>- RAP in the mix:             <ul style="list-style-type: none"> <li>• cost effective</li> <li>• good performance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• environmentally responsible</li> <li>• control of the amount of RAP added</li> </ul> <ul style="list-style-type: none"> <li>- Green – environmentally friendly/sustainable</li> <li>- but not green that knows nothing and accepts everything that other suggests</li> </ul> <hr/> <p>700mm granular (300150_19_CRL (600_-2” CRL</p> <p>wasn’t preconsolidated Ancaster silt, 25~30% moisture 145mm HMA HL8 HD HL1 Mod or DFC Mod.</p> <p>for after Paradise</p> <p>4034 Motorway – 1991~ 20 yrs Steel slag place by Capital for Detroit</p>
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<u>Monday, January 17/11</u>	<u>Tuesday, Jan 18/11</u> <u>Wednesday, Jan 19/11</u>
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GOL0007412

IMAGE 12

Thursday, Dec 20/11

GOL0007412

Monday, Jan 31/11

2/ Hamilton

<p><u>Tuesday, February 1/11</u></p>	<p>2/ Hamilton – Mike Becke</p> <ul style="list-style-type: none"><li>• preconstruction meeting</li><li>• pre-pave meeting</li></ul> <p>a/ what if it's not their fault?</p> <p>b/ packed milled material should be removed</p> <p>c/ how – use <del>blasting</del> sand and mix and remove</p> <p>d/ please explain</p> <p>e/ test strip should be approved by the PM</p> <p>f/ steel slag should meet all HMA aggregate OPSS requirements</p> <p><u>g/ what about production AC content?</u></p> <p>h/ mix types &amp; specifications SP12.5 FC 2 <del>64-28</del> or 70-28 SP 19 modified as binder      <u>ac polymer modified</u></p> <p>i/ repair methodology</p> <p>j/ RAP amount control</p>
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<p>- referee testing</p> <p><u>Wednesday, Feb 2/11</u></p> <p><u>Thursday, Feb 3/11</u></p>	<p><u>Friday, Feb 4/11</u></p>
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<p style="text-align: center;"><u>Tuesday, Feb 8/11</u></p> <p style="text-align: center;"><u>Wednesday, Feb 9/11</u></p> <ul style="list-style-type: none"> <li>- Andro Delos Rayes             <ul style="list-style-type: none"> <li>• LINC Hamilton</li> <li>• determine recompaction temperature                 <ul style="list-style-type: none"> <li>- ac viscosity/ temp chart</li> <li>- Marshall recomp – determined by temp. add 3-5 °C</li> <li>- Superpave</li> <li>- recompaction = compaction with PG</li> </ul> </li> </ul> </li> </ul> <p>originally comp + 5°C</p>	<p style="text-align: center;"><u>- No steel slag portion recycled</u></p> <ul style="list-style-type: none"> <li>-ask Imran why 5.2 &amp; 4.8 AC content on Hwy 403?</li> <li>- profilograph</li> <li>- APA</li> <li>- price 130-140   Miller 110-120  </li> <li>- traffic on QEW LINC</li> <li>- talk to MTO 5% or \$50 to be eaten by Contractor on AC price increase</li> </ul> <p style="text-align: center;"><u>Thursday, Feb 10/11</u></p>
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GOL0007412

IMAGE 17

March 3/11

<p>- Hamilton</p> <ul style="list-style-type: none"><li>• LINC</li><li>• spec.</li><li>• paper – pav. perf. curve - who</li><li>• PSV testing</li></ul> <p>Rich Andoga – ext. 2431</p>	<p>Monday, Mar 7/11</p> <p>3/ Hamilton – Mike</p>
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<p><u>Monday, March 21/11</u></p>	<p><u>Wednesday, March 23/11</u> <u>Thursday, March 31/11</u> 2/ Hamilton</p>
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GOL0007412

1/ Hamilton

GOL0007412

Thursday, March 31/11

3/ Hamilton

Plan

5/ Hamilton

GOL0007412

Monday, April 18/11

2/ Gary Moore

GOL0007412

Monday, April 24/11

8/ Hamilton – FWD Mike

GOL0007412

Wednesday, April 27/11

1/ Proposal Hamilton

GOL0007412

Thursday, April 28/11

4/ Hamilton proposal job #

Amanda – print shop

5/ Jeff Rosen

Dave Usuh – City Inspector

@ 8:45 am

cell (905) 973-0843

Tim Hortons

GOL0007412

Both pages are redacted in full.



<p><u>Friday May 6/11</u> 1/ Hamilton - cancelled</p>	<p><u>FWD</u> - Hamilton LINC ! Wed./Th. 2</p>
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GOL0007412

Delos Reyes

Tuesday, May 10/11

1/ LINC	Rankin emergency (905)5774203
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Pre-con meeting                      APA,

- mixes – Superpave mix verification to be included
- mixes – surface SP12.5 20-28PM, SP19
- don't use RAP from some section
  - rubber Lafarge
  - steel slag
  - cracked EBL ~ 1.5 km  
(different mix)
- repairs
  - top binder – small areas by long sect
  - full depth asphalt repair
- we are doing inspection & FWD  
how do they want to do it
- Golder
  - inspection of paving – milling, cleaning,  
taxk coat, paving, repairs
  - compaction testing
  - sampling HMA & AC, testing, report
- schedule !!!
- weekends – how many shifts/hours
- echelon, Shuttlebuggy, joint heaters
- shoulders
- smoothness – 1 lift
- how will they do repairs – small
  - large

GOL0007412

- main line closure June 4<sup>th</sup>, weather – check  
could go towards the end of August,
- 50km/hr wind – advise OPP, 80 km/h close Skyway and LINC must be available

mid week base repairs – still discussed

test strip – damaged location

Mandatory meetings

- pre-pave meeting – ahead of the test strip
- traffic meeting – me to attend

FWD – Thursday, Friday

joint heaters

paving 50' [*text could not be confirmed*]

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Wednesday, May 11/11	<u>Projects &amp; papers</u> 1/ <u>Hamilton PTR</u> 2. <u>Hamilton LINC</u>
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GOL0007412

Friday, May 13/11

12/ Jeff Rosen (905) 973-0843

GOL0007412

Friday, May 20/11

3/ Hamilton LINC

4/

<p><u>Monday, May 23/11 – Victoria Day</u></p> <p><del>Monday</del> <u>Tuesday, May 24/11</u></p> <p>2/ Hamilton LINC</p>	<p><u>Wednesday, May 25/11</u></p> <p>1/ Hamilton – Jeff Rosen x 4139 Mike x 4278</p> <p><u>Thursday, May 26/11</u></p> <p>2/ Hamilton</p>
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GOL0007412

Friday, May 30/11

2/ Hamilton

Monday, May 31/11

RR + LU + A d/ Hamilton 2 v



GOL0007412

Wednesday

1/ Hamilton

- last section mill 100 mm

Chris Philips cell – 647 280 9589

GOL0007412

Wednesday, June 22/11

2/ Hamilton

<u>Wednesday, June 29/11</u>	10/ Hamilton – Andro (416) 710-4761
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<p><u>Thursday, June 30/11</u> 4/ Hamilton</p>	<p>24/ Hamilton – pav. technology review</p>
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GOL0007412

Monday, July 11/11

1/ Hamilton

GOL0007412

Tuesday, Aug 2/11

3/ Hamilton 10:00 am

Room 320 B

- test results – by course
- profilograph – later next week or a week after

GOL0007412

August 3/11

1/ City of Hamilton

- Test results
- Profilograph
- Report – week of 29<sup>th</sup>

crash truck for profilograph

-

GOL0007402

IMAGE 1

Aug 10/11

to

April 16/12



GOL0007402

Monday, August 15/11

n/ Hamilton PTR

GOL0007402

IMAGE 3

Monday, Aug 22/11

GOL0007402

4/ City of Hamilton

- summary QC/QA VH + RR
- short report
- profilograph
- recommendations LU

GOL0007402

12/ Hamilton PTR

GOL0007402

Monday, Aug 29/11

2/ Hamilton

Tuesday, Aug 30/11

GOL0007402

Urgent

RR

6/ Hamilton - tomorrow

<p><u>Friday, Sep 16/11</u></p> <p>4/ City of Hamilton PTR 5/ City of Hamilton – Gary ICMIPA</p>	<p>RR 22/ Hamilton Joannah Black</p> <p>4577</p>
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GOL0007402

IMAGE 9

Thursday, Oct 6/11



GOL0007402

VH

9/ Hamilton – a little bit only

GOL0007402

Wednesday, Oct 12/11

10/ Gary Moore  
4867

GOL0007402

Monday, Oct 17/11

1/ Hamilton – luncheon

Before mid of Nov

background

*[text could not be confirmed]*

*[text could not be confirmed]*

clients

GOL0007402

Monday, Oct 24/11

11/ Hamilton - PTR

GOL0007402

12/ We can go with Vimy to Hamilton:

Thursday this week

Monday, Wednesday next week

GOL0007402

Thursday, Oct 27/11

1/ Hamilton

GOL0007402

Wednesday, Nov 2/11

2/ Hamilton

GOL0007402

Gary Moore

Hamilton – Johanna Black



GOL0007402

Thursday, Nov 17/11

VH

1/ Hamilton

PSV, PTR

<u>Monday, Nov 28/11</u>	8/ Hamilton – <u>LINC</u> – no draft, severe, print it - <u>PTR</u>
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<u>Thursday, Dec 8/11</u>	<u>VH</u> 3/ Hamilton!
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GOL0007402

Monday, Dec 19/11

3/ Hamilton

PTR – meeting

Johanna Black

report

paper – Feb 18, Gary & Jeff

GOL0007402

Wednesday, Dec 21/11

1/ Meeting with Gary

a/ Phase II - \$12,000 left

b/ CTAA paper

c/ WMA

d/ Phase III

e/ RHVP station

f/ dev. of WM spec.

GOL0007402

Thursday, Dec 22/11

9/ Hamilton – Imran

- Johanna Black

GOL0007402

IMAGE 24

Tuesday, Jan 10/12

1. Hamilton

GOL0007402

Tuesday, Jan 10/12

1/ Hamilton



GOL0007402

IMAGE 26

Wednesday, Jan 12/12

GOL0007402

a/ Hamilton

VH

- specs

- PSV - 6000

- WMA - 10,000

6/ Hamilton – PMS – pav. monitoring station

Joanna Black

RR

- Arial, Imran

GOL0007402

Tuesday, Jan 17/12

5/ Hamilton PTR

GOL0007402

Monday, Jan 23/12

3/ Gerd – Hamilton!

<p><u>Thursday, Jan 26/12</u></p> <p>3/ Hamilton</p>	<p>5/ Hamilton</p> <ul style="list-style-type: none"><li>- EOR – how to test it – engine oil residue</li><li>- asphalt cement modifiers – polyphosphoric acid and polymers (SBS &amp; RET)</li><li>- WMA<ul style="list-style-type: none"><li>• better: fatigue, low temp.</li><li>• worse: melting, moisture damage TSR</li><li>• lower modulus</li><li>• WMA – tender mixes</li></ul></li><li>- % RAP in the mix<ul style="list-style-type: none"><li>• black rock vs. full blending</li><li>• if high ac content, better blending</li></ul></li><li>- Susan<ul style="list-style-type: none"><li>• using of recycled slag</li><li>• can recycled slag in granulars be used in water trenches?</li></ul></li><li>- mix designs 2010.</li></ul> <p><u>Friday, Jan 27/12</u></p>
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<p style="text-align: center;"><u>Monday, Jan 30/12</u></p> <p>3/ Hamilton - LINC -</p> <p style="text-align: center;"><u>Tuesday, Jan 31/12</u></p>	<p>6/ Gary Moore</p> <p>{ - SONNE Waxlike - Bitumar Advera Hydrotherm – Coco Advera - King</p>
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GOL0007402

don't pay but allow

you can bid WMA

RAP – 5% or 10% more

Wednesday, Feb 1/12

Thursday, Feb 2/12

GOL0007402

Monday, Feb 6/12

1/ Hamilton



GOL0007402

Monday, Feb 13/12

7/ Hamilton !

GOL0007402

Vimy

2/ Hamilton – PTR 101184-0021

<u>Tuesday, Feb 14/12</u> 1/ Hamilton	<u>Wednesday, Feb 15/12</u> 5/ Hamilton
--	--

<u>Thursday, Feb 16/12</u>	<u>Friday, Feb 17/12</u>
2/ Hamilton	1/ Hamilton report

<u>Meeting with Gary Moore</u>	<u>Wednesday, Feb 22/12</u>
<p>1/ Form 600-900 are scrapped</p> <ul style="list-style-type: none"><li>- OPSS with SPs</li><li>- Issue with cement specs.</li><li>- I will tell you what I want, you tell me how you will ob it.</li><li>- Robert Bloghrit - PE New Jersey</li><li>Chris Chiesel</li></ul> <p>15 &amp; 25% sc base or 25 &amp; 30</p> <p>ARA, TTI overlay test</p> <ul style="list-style-type: none"><li>- mixes with higher content of RAP</li><li>- tell the contractor how to use RAP<ul style="list-style-type: none"><li>- tell me what you want</li></ul></li><li>King – Advera, little more QC</li><li>- monitor the quality of RAP.</li><li>- <u>designated source of RAP.</u></li></ul>	<p>4/ Hamilton</p>

<u>Monday, Feb 27/12</u> 3/ Hamilton	3/ Hamilton <u>Wednesday, Feb 29/12</u> 3/ Hamilton
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<u>Thursday, March 1/12</u> 1/ Hamilton	<u>Friday, Mar 2/12</u> 2/ Hamilton
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<u>Friday, Mar 9/12</u>	2/ <u>Hamilton</u> – LU + VH !
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GOL0007402

Wednesday, Mar 14/12

1/ Hamilton

Thursday, Mar 15/12

1/ Hamilton

GOL0007402

Friday, Mar 16/12

a/ Hamilton

<p><u>Tuesday, March 20/12</u> 5/ Hamilton -</p>	<p><u>Wednesday, March 21/12</u></p>
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GOL0007402

IMAGE 45

4/ Hamilton

GOL0007402

Tuesday, March 27/12

6/ Hamilton

<u>Wednesday, Mar 28/12</u> 2/ Hamilton	<u>Thursday, Mar 29/12</u> 6/ Hamilton
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<p><u>Friday, March 30/12</u></p> <p>1/ Hamilton</p>	<p><u>Monday, April 2/12</u></p> <p>2/ Hamilton RR + VH</p>
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GOL0007402

Thursday, April 5/12

LU + V 5/ Hamilton !



GOL0007402

Wednesday

1/ Hamilton



GOL0007402

Friday, April 13/12

1/ Hamilton

Monday, 16/12

1/ Hamilton

GOL0007411

IMAGE 1

Ludomir  
Uzarowski  
2012

April 19/12

to

Dec 7/12

GOL0007411

IMAGE 2

Monday April 23/12

<p>LU + VH – <u>Hamilton</u></p> <ul style="list-style-type: none"><li>• cost updates</li><li>• presentation</li><li>• Phase III</li><li>• Monitoring station<ul style="list-style-type: none"><li>- cost estimate</li><li>- analysis</li></ul></li><li>• traffic – Johannah Black</li><li>• invoice</li><li>• lab. services - Jodi</li></ul>	<p>Messages:</p> <p>b/ Marco Oddi, Jerry ext. Marco.Oddi@ Hamilton.ca</p> <p>3/ Hamilton</p>
---	--

GOL0007411

Friday, April 27/12

e/ Hamilton – Monday VH & LU

GOL0007411

Monday, May 7/12

2/ Hamilton

a/ - traffic pavement monitoring station

- Imran or Arial
- restart – monitor traffic
- monitor pavement
  - store (collect data)
  -
- cost estimate – Gary
  - 3 years – data collection
  - analysis

b/ cost estimate for extra work in Phase II

- PSV - \$6,000 or \$8,000

- WMA - \$10,000

c/ Phase II – reports

d/ Phase III



GOL0007411

Wednesday, May 9/12

- Hamilton PMTR
  - pavement preservation
  - spec. implementation
  - Asset Management
  - pav. design matrix
  - implementation
  
- Hamilton – RHVP monitoring station

GOL0007411

IMAGE 7

Friday, May 18/12

GOL0007411

VH

VH! 1/ Hamilton

- report
- sensors
- proposal ! Phase III
- testing

<u>June 12/12</u>	10/ RR - Hamilton
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GOL0007411

Thursday, June 14/12

3/ Hamilton – monitoring station

GOL0007411

Friday, June 22/12

3/ Hamilton

5/ Gary Moore

a/ monitoring station –

b/ PMTR

- we are maxed on the roster this year
- every other year on the main or scope
- Dec. or January
- August
- our next roster in Dec for the next 2 years

GOL0007411

IMAGE 12

Both pages are redacted.

<p><u>Tuesday, July 3/12</u></p> <p>A/ <u>Rabiah</u></p>	<p>7/ Hamilton</p> <p>E/</p> <p><u>Wednesday, July 4/12</u></p>
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<u>Tuesday, July 10/2012</u>	<u>Wednesday, July 11/12</u> 29) Hamilton
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GOL0007411

IMAGE 15

Wednesday, July 25/12

<p><u>VH</u></p> <p>√ 1. Hamilton report 2. Hamilton Phase III</p>	<p><u>Thursday, July 26/12</u></p> <p>4/ Gary Moore</p>
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<u>Monday, August 20/12</u>	2/ Hamilton
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<u>Friday, Gary</u>	Hamilton Phase III RR
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GOL0007411

IMAGE 19

Wednesday, Sep 12/12

GOL0007411

4/ Mike Becke from Hamilton

- Burlington Street

Surface smoothness on concrete

OPS 350

GOL0007411

IMAGE 21

Monday, Oct 1/12



GOL0007411

Meeting with RR & VH

LU – RR + VH 11/ Hamilton proposal

GOL0007411

Wednesday, Oct 3/12

- Hamilton

GOL0007411

Wednesday, Oct 10/12

2/ Hamilton – eng. luncheon

GOL0007411

Thursday, Oct 18/12

4/ Messages

c/ Marco Cicconi WMA ext 2426

<p style="text-align: center;"><u>Wednesday, Oct 24/12</u></p> <p style="text-align: center;"><u>Meeting with Gary Moore</u></p> <p>1/ RHVP instrumentation</p> <p>√ 2/ Modified specs. – implementation WMA</p> <p>√ 3/ WMA</p> <ul style="list-style-type: none"> <li>- Hamilton</li> <li>- MTO Special P LS-318</li> </ul> <p>“Draft – Practice for the Design of Superpave WMA” 12.05.31</p> <p>4/ Pavement design – matrix</p> <p>5/ - Pav. rehab in PMS</p> <p>6/ High RAP mixes</p>	<p><u>Phase III</u></p> <p>Marco – next week</p> <p>Geotech roster requirements Talk to Gerd</p> <p><u>RHVP instrumentation</u></p> <ul style="list-style-type: none"> <li>- data saving</li> <li>- point of analysis</li> <li>- \$30 – 40,000</li> </ul> <p>Phase III</p> <ul style="list-style-type: none"> <li>- implementation, enforcement</li> <li>- it's there</li> </ul> <p>- rehab. – updated matrix pav. design matrix incl. rehab selection like Superpave matrix</p> <p>Asset management rideability, cracks, structural</p> <p>Rich &amp; John Marry – what they do review the results to ensure the right testing is done and enforcement</p>
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<p>end of 2 year period – repair the joints – reheat &amp; additional AC</p> <p>4/ RVHP proposal – Rabiah</p> <p>7/</p> <p style="text-align: center;"><u>Thursday, Oct 25/12</u></p> <p>7/</p>	<p>1/ Hamilton RHVP VH 2/ Hamilton Phase III</p>
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Friday, Oct 26/12	VH 4/ Hamilton Roster Phase III
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Monday, Nov 19/12

Tuesday, Nov 20/12

Wednesday, Nov 21/12



GOL0007497

RR A/ Hamilton

- RHVP monitoring station – start
- 5 years later

GOL0007497

Thursday, Nov 22/12

Gary Moore

Daryl Finlinson – BC DOT –

GOL0007399

IMAGE 1

Jan 7/2013

to

July 2/2013

<p><u>Wednesday, Jan 30/13</u> 18/ HAMILTON !!!</p>	<p>Thursday, Feb 07/13</p>
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11/ Hamilton - Gary	<u>Tuesday, 12/13</u>
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GOL0007399

- Gary Moore

<u>Tuesday, Feb 19/13</u>	<u>Wednesday, Feb 20/13</u>	
3/ Hamilton -	7/ LU + VH – Thursday Hamilton the week of March 11 <sup>th</sup> <table border="1" data-bbox="1170 327 1325 436"><tr><td>inst. Phase III 5 year</td></tr></table>	inst. Phase III 5 year
inst. Phase III 5 year		

GOL0007399

Wednesday, Feb 27/13

4/ Hamilton



GOL0007399

e/ City of Hamilton - award gala

<p style="text-align: center;"><u>Friday, March 1/13</u></p> <p>A/ Meeting with Gary 1/ RHVP - instrum. - 5 years</p> <p>2/ PMTR – Ph.III - WMA LS-318 - pav. des. Matrix - pav. rehab in PMS - high RAP mixes - implementation Ph I &amp; II - performance</p> <p>- standard for developers - concrete pav with asphalt cost analysis Analysis for Rick &amp; Chris</p>	<p>Work based on IRI &amp; PCI or REC</p> <p>GPR – almost inconsistent with construction</p> <p>GIR – long. &amp; transversely</p>
--	--

GOL0007399

X 6810

Monday, March 11/13

VH

Hamilton

Thursday March 21/13 10/ Hamilton - ramp Mohawk Ramp	<u>Monday, March 25/13</u> VH 5/ Hamilton
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GOL0007399

Wednesday, April 3/13

7/ Hamilton

<p>Thursday, April 4/13</p> <p>2/ Hamilton</p>	<p><u>Friday, April 5/13</u></p> <p>4/ City of Hamilton – 12 or 19<sup>th</sup>, Jan 23, 26 - traffic – Monday</p> <p><u>Monday, April 8/13</u></p> <p><u>Tuesday, April 9/13</u></p>
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GOL0007399

Thursday, April 11/13

6/ Hamilton

GOL0007399

Tuesday, April 23/13

3/ Hamilton RHVP – 5 years  
station



GOL0007399

Friday, April 26/13

13/ Hamilton – instrum.

GOL0007399

Tuesday, May 7/13

16/ Hamilton

GOL0007399

IMAGE 17

This page is redacted.

Wednesday, May 8/13

g/ Hamilton – call Marco – 5 years after

GOL0007399

Tuesday, May 14/13

9/ Hamilton

RR a/ 5 years RR FWD – this week

VH b/ instrumentation this week

LU c/ PMTR

<u>Tuesday, May 21/13</u>	13/ Hamilton – Marco
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GOL0007399

Thursday, June 6/13

3/ RHVP coring



<p style="text-align: center;"><u>Friday, June 7/13</u></p> <p>5/ RHVP</p>	<p style="text-align: center;"><u>Monday, June 10/13</u></p> <p>25/ Hamilton – instr. 26/ Hamilton PMTRIII</p>
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GOL0007399

IMAGE 21

Thursday, June 13/13

GOL0007399

Hamilton 5 years, monitoring, PMTR  
CTAA, TAC, FWD – Montreal Vimy,  
sealants, reservoir,

GOL0007407

IMAGE 1

July 04/2013

to

July 03/2014

GOL0007407

Wednesday, July 17/13

Thursday, July 18/13

4/ Call:

Marco Oddi

<p style="text-align: center;"><u>Monday, July 29/13</u></p> <p>9/ Hamilton <span style="float: right;">2</span> - instr. - PMTR LU + VH + RR 2 VH - 5 years - Marco LU + VU 2</p>	52/ HIR - Ecopave VH+TK+LU
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GOL0007407

IMAGE 4

2/ Hamilton } Vimy

Wednesday, July 31/13

GOL0007407

Wednesday, Aug 14/13

9/ Gary Moore – instr., 5 years, PMTR



GOL0007407

Monday, Aug 19/13

LU + RR 4/ Hamilton – recycled engine oil – 5 years LU + RR + V

- Instr. VH + LU

- PMTR LU + VH

GOL0007407

Thursday, Aug 22/13

1/ Meeting with Gary Moore

GOL0007407

Monday, Sep 30/13

5/ Hamilton – Gary Moore

Tuesday, Oct 1/13

4/ Hamilton -

GOL0007407

Friday, Oct 5/13

Plan:

4/ Hamilton

GOL0007407

Tuesday, Oct 8/13

1/ Hamilton

- PMTR LU + VH + RR

- friction LU

GOL0007407

Thursday, Oct 10/13

3/ Hamilton – Gary

GOL0007407

Wednesday, Oct 30/13

3/ Hamilton

GOL0007407

Friday, Nov 8/13

1/ Hamilton

- 5 years –
- PMTR - Phase I
- friction
- instrum.



<u>Monday, Nov 11/13</u>	<u>Wednesday, Nov 13/13</u>
1/ Hamilton	3/ Hamilton  9/ Gary Moore - recycled engine oil - RAP

GOL0007407

Thursday, Nov 14/13

1/ Hamilton PMTR

4/

<p>2/</p> <p><u>Thursday, Nov 21/13</u></p>	<p><u>22/13</u></p> <p>3/ Hamilton</p> <hr/> <p><u>Monday, Dec 2/13</u></p> <p>12/ Hamilton – friction</p> <ul style="list-style-type: none"><li>- instr. Rich</li><li>- 5 yrs</li><li>- PMTR</li></ul>
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GOL0007407

Wednesday, Dec 04/13

1/ Hamilton

- traffic data – remote connection works
- pavement data – we have new software  
but don't know how to use it  
we don't know h
- PO's

GOL0007407

Monday, Dec 09/13

2/ Hamilton

GOL0007407

Tuesday, Dec 10/13

1/ Hamilton – 7:30 am – meeting  
with Gary

<p><del>Thursday</del> <u>Friday, Dec 13/13</u></p>	<p>Call: 2/ Gary Moore</p>
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GOL0007407

Wednesday, Dec 18/13

1/ Hamilton

6/

Thursday, Dec 19/13

2/ Hamilton – Rich – other person

Lisa Castronovo

11/ Hamilton – Rich Andoga – ext 2892



GOL0007497

Friday, Dec 20/13

1/ Hamilton

(905) 726-9518

- call Trevor Moore
- call Lisa Castronovo
- call Gary?
- 

4/ TAC - call Gary Moore  
- call Gary MacDonald

Slurry seal 2.5 + 0.5 fibre  
Micro 3.5 single  
+ fibre + 0.5 for fibre  
dobule micro with fibre  
~ \$5.5

Wednesday, Jan 8/14	4/ Hamilton (a) TAC paper (b) PMTR report (c) 5 years + friction (d) instrumentation (e) other involvements 5/ Municipalities (a) Hamilton
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Thursday, Jan 9/14

4/ Hamilton – PMTR, call Gary – traffic sensors are working  
no remote connection  
today, keys  
friction on Tuesday,  
report Friday

GOL0007407

Tuesday, Jan 14/14

1/

2/ Gary Moore

- \$12,000 – budget \$5,000      – HIR

- TAC paper                              – preventive

today? – friction, instrumentation

GOL0007407

Monday, Jan 27/14

1/ Friction results

Tuesday, Jan 28/14

7/ VH – Hamilton

with LU – what described on the report,

√ HIR, instr., friction, ....

√

GOL0007407

Wednesday, Jan 29/14

2/ Hamilton

<p><u>Monday, Feb 3/14</u></p>	<p>- Hamilton</p> <ul style="list-style-type: none"><li>• instrumentation</li><li>• PMTR III – Rich</li></ul>
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7/ Hamilton - Gary	<p style="text-align: right;"><u>Tuesday, Feb 4/14</u></p> <p>4/ Call Gary</p> <p>5/</p> <p>Gary: a/ pedestrian cross walks – BPN &amp; STexture b/ RHVP &amp; Linc – friction c/ instrumentation d/ CTAA – 6 years after e/ PMTR III f/ EOR g/ treatment to steel slag pavements h/ Rich Andoga i/ HIR            l/ Andrew Pahalan j/ PSV            k/ high modulus mix</p>
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<u>Wednesday, Feb 5/14</u>	<u>Friday, Feb 7/14</u>
<p>1/ Andrew Pahalan – Coco - Hamilton spec.</p>	<p><u>Meeting with Gary</u> 1/ 6 years &amp; CTAA ✓ 2/RHVP &amp; Linc – friction report ✓ 3/Cross walks friction BPN 4/ instrumentation 5/ PMTR III 6/ EOR ← March 18 Sim 7/ treatment of steel slag 8/ Rich 9/ HIR – fibre – projects than we sampled AC 10/ PSV – no 11/ Andrew Pahalan – 12/ high modulus mix ✓ 13/ micro, blasting Queen Street Hill Next step - compaction tightening Rich } - sections for steel slag Andoga } - sections for HIR</p>

GOL0007407

Tuesday, March 11/14

2/ VH

- Hamilton

- BP testing                      call Nabil
- instrumentation
- PMTR
- (-) report
- HIR

GOL0007407

IMAGE 32

Friday, March 14/14

GOL0007407

Call:

- Gary Moore

GOL0007407

Monday, March 17/14

11/ Gary Moore

GOL0007407

4/ Hamilton - EOR,  
high modulus

GOL0007407

Thursday, March 20/14

5/ Call Gary Moore – EOR,

Thursday, March 27/14

9/ HIR in Hamilton



<p><u>Friday, April 4/14</u> 12 <u>HAMILTON</u></p>	<p><u>Monday, April 7/14</u> VH 12/ Hamilton</p>
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GOL0007407

Thursday, April 10/14

7/ Gary - Hamilton

GOL0007407

Wednesday, April 23/14

11/ Hamilton

GOL0007407

Thursday, May 22/14

8/ Vimy:

- TAC paper

- Hamilton

-

GOL0007407

Monday, June 23/14

6/ Hamilton - LU

GOL0007407

IMAGE 42

Wednesday, June 25/14

<p><u>Vimy</u></p> <p>11/ Hamilton – Gary price, Linc &amp; RHVP, crosswalk <u>when – July</u> <u>\$5,000</u> Phase III HIR</p>	<p><u>Thursday, June 26/14</u></p>
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Gary Moore – not responding	<u>Wednesday, July 2/14</u> 12/ Hamilton – After 9 <sup>th</sup> the week of 14
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GOL0007405

IMAGE 1

July 8/14

to

Sep 08/15

GOL0007405

IMAGE 2

Wednesday, July 11/14

GOL0007405

Hamilton

Pat Wiley ECOPAVE

604 845 0895

8/10 is about municipal

are interested - get back to me next week

- next spring, no Mastek – too big

GOL0007405

Thursday, July 17/14

3/ Hamilton - friction

<u>Wednesday, July 23/14</u>	VIMY c/ Hamilton – after vacation
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GOL0007405

Wednesday, August 6/14

9/ Hamilton- talk to Gary

GOL0007405

Monday, August 11/14

7/ Hamilton

<p><u>Friday, August 15/14</u></p> <p>2/ Gary Moore</p>	<p>g/</p> <p><u>Monday, Aug 18/14</u></p> <p>7/ Gary Moore</p>
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GOL0007405

Wednesday, Aug 27/14

12/ Gary Moore

GOL0007405

IMAGE 10

This page is redacted.

GOL0007405

IMAGE 11

Monday, September 22/14

GOL0007405

11/ Hamilton - VH

GOL0007405

Wed Oct 1/14

20/ Hamilton!

GOL0007405

Monday, Oct 6/14

18/ Hamilton

<u>Monday</u>	10/ Hamilton
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GOL0007405

Thursday, Oct 30/14

10/ Gary Moore



GOL0007405

Wednesday, Nov 5/14

5/ Gary Moore

GOL0007405

Tuesday, Nov 11/14

12/ Hamilton

<u>Tuesday, Dec 16/14</u>	37/ HAMILTON
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GOL0007405

Tuesday, Dec 23/14

3/ Call:

v - Gary Moore

GOL0007405

Monday, Jan 5/2015

8/ Hamilton

<u>Wednesday, Jan 7/15</u>	<u>Winter Work</u> 8/ Hamilton review
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GOL0007405

Monday, January 12/15

VH 9/ Hamilton – pavement evaluation

GOL0007405

Wednesday, Jan 21/15

3/ Municipal

2. Gary Moore

C/ TAC Abstracts by other conferences

JR & GM

1. Pav. cracking – Gary Moore, send to



GOL0007405

Thursday, Jan 22/15

2/ Gary Moore – RHVP 6 year later.

<p><u>Friday, Feb 6/15</u></p> <p>3/ Hamilton</p>	<p>12/ Hamilton - PMTR</p>
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GOL0007405

Wednesday, Feb 11/15

4/ Gerd Grothke

<u>Tuesday, Feb 17/15</u>	5/ Hamilton PMTR
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GOL0007405

Wednesday, Feb 25/15

1/ Hamilton

GOL0007405

Tuesday, March 31/15

! 17/ Gary Moore LU

GOL0007405

Friday, April 17/15

4/√ meeting

Becca, Pam, LU, VH, RR

Gary MacDonald, Gary Moore, Rob Burlie, Dan Weachter,

Scott...,.....

<u>Monday, April 20/15</u>	Gary Moore ✓
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GOL0007405

Tuesday, June 2/15

1/ Meeting with Gary Moore, Hamilton

Gary – send him an email with  
recommendations for AC spec,  
inspect his cracked pavements.

GOL0007405

Thursday

b/ Hamilton Phase 3 –

- Gerd Grothke
- 5000 or 12,000 haven't work done

GOL0007409

IMAGE 1

September 9/2015

to

January 31/2017

GOL0007409

Friday, Sep 11/15

20/ Gary Moore

GOL0007409

Wednesday, Oct 21/15

9/ Hamilton - meet

GOL0007409

Friday, Oct 23/15

7/ Gary Moore

Monday, Oct 26/15

6/ Hamilton

<u>Thursday, Oct 29/15</u>	9/ Hamilton
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GOL0007409

Monday, Nov 2/15

13/ Hamilton



GOL0007409

Monday, Nov 9/15

8/ Hamilton

GOL0007409

Thursday, Nov 19/15

- talk to Gary Moore

GOL0007409

Friday, Nov 20/15

3/ Hamilton

GOL0007409

Friday, Nov 27/15

4/ Hamilton

GOL0007409

Monday, Nov 30/15

12/ Hamilton

GOL0007409

Monday, Dec 7/15

LU 10/ Hamilton

GOL0007409

Thursday, Dec 17/15

1/ Gary Moore

- AC
- a survey by Sandy, 64-28
- specification
- results review
- LINC RHVP Red Hill Valley
  
- Gerd – look at test results
- dips there





GOL0007409

This page is redacted.

<u>Tuesday, Jan 5/16</u>	8) Hamilton RHVP results review
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GOL0007409

Friday, Jan 15/16

4/ Hamilton

GOL0007409

Wednesday, Jan 20/16

5/ Hamilton

GOL0007409

Monday, Jan 25/16

3/ Hamilton

Tuesday, Jan 26/16

LU 5/ Hamilton RHVP

GOL0007409

Wednesday, Jan 27/16

4/ Hamilton

Thursday, Jan 28/16

5/ Hamilton

<p><u>Wednesday, Feb 3/16</u> 2/ Gary Moore</p> <p><u>Thursday, Feb 4/16</u> √ 1/ Hamilton - RR      6/ Gerald S... LU</p>	<p>Hamilton</p>
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GOL0007409

Thursday, Feb 11/16

11/ Hamilton – the week after



<p><u>Thursday, Feb 18/16</u> 5/ Gary Moore 6/</p>	<p>Monday, Feb 22/16 6/ Gary Moore    RR – LU - VH</p>
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GOL0007409

Wednesday, Feb 24/16

3/ Hamilton

GOL0007409

Monday, Feb 29/16

5/ Hamilton

GOL0007409

IMAGE 25

Friday, March 4/16

1/ Hamilton

- spec

- profile

- results

- blasting and micro

steve@skidabrader.com

GOL0007409

Monday, March 14/16

√

√ 2/ Gary Moore – spec, friction, proposals

GOL0007409

Thursday, March 17/16

√ 8/ Hamilton

<u>Monday, April 25/16</u>	<u>Tuesday, April 26/16</u>
√ 2/ Hamilton √	5/ Hamilton  20/

<u>Monday, May 2/16</u>	<u>Tuesday, May 3/16</u>
A/ 11/ Hamilton	Call Gary Moore



<p><u>Friday, May 13/16</u> 9/ Hamilton</p>	<p>15/ Hamilton – Leonard Taylor 32/ call Gary Moore – pav. Perf.</p>
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<p><u>Tuesday, May 24/16</u> 1/ Meeting in Hamilton</p> <p><u>Wednesday, May 25/16</u> LU v 5/ Hamilton</p>	<p><u>Thursday, May 26/16</u> 11/ Hamilton – Leonard Taylor</p>
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GOL0007409

Monday, July 18/16

12/ Hamilton – Kendra

GOL0007409

IMAGE 33

Tuesday, August 2/16

GOL0007409

16/ Hamilton!

20/ Kendra - Hamilton

GOL0007409

1/ City of Hamilton

GOL0007409

Friday, Aug 5/16

1/ Hamilton

GOL0007409

Friday, August 12/16

12/ Hamilton



<u>Friday, Aug 26/16</u>	19/ Hamilton
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GOL0007409

This page is redacted.

<p><u>Monday, Oct 3/12</u> 9/ Hamilton</p>	<p>37/ Hamilton Engineering lunch</p>
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GOL0007409

Monday, Nov 21/16

2/ Gary Moore

GOL0007409

IMAGE 42

Thursday, Dec 15/16

GOL0007409

22/ Hamilton – Gary Moore

GOL0007409

Friday, Dec 23/16

Clients: Gary Moore, Gary MacDonald, John Rizzo,  
Cartuine, Barry Poon, Kris, Andres,  
Kaium, Hassam,  
Guy Zammo  
Kevin, Chris, Mary, Daniu, Ryan, Geoff, Jozele  
Karim, Bill, Dave Anderson,

Wednesday, Jan 4/17

4/ Gary Moore & others

Thursday, Jan 5/17



<p><u>Thursday, January 5/17</u></p>	<p>Gary Moore</p> <p>- mixes – research tomorrow @ 8:00am specifications RHVP - rut resistant mixes- Linc bus bays, intersections LRT - using available aggregates Other projects for FC1 &amp; FC2 or equivalent mixes (905) 546-2424 ext. 4867</p>
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GOL0007409

Friday, Jan 6/17

1/ Hamilton

GOL0007409

Friday, January 13/17

1/ City of Hamilton proposal

GOL0007409

Monday, Jan 16/17

2/ Hamilton

Wednesday, Jan 18/17

GOL0007409

Municipalities:

a/ Hamilton – Gary Moore

Monday, Jan 23/17	4/ Hamilton 3/
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GOL0007409

Monday, Jan 30/17

3/ Hamilton – PO!

GOL0007414

IMAGE 1

February 1/2017

to

March 26/2018



GOL0007414

Monday, Feb 6/17

7/ Hamilton

GOL0007414

Friday, Feb 17/17

LU, RR 6/ Hamilton – LU spec., 2014

GOL0007414

Monday, March 6/17

18/ Hamilton – specs

19/ Hamilton QA 2012-16

GOL0007414

Wednesday, March 8/17

4/ Hamilton

<u>Monday, March 13/17</u>	<u>Thursday, March 16/17</u>
2/ Hamilton 905 546 2424 x4867	

<p>2/ Hamilton</p> <ul style="list-style-type: none"> <li>- no control by the City             <ul style="list-style-type: none"> <li>• nothing rejected</li> <li>• no referee</li> </ul> </li> <li>- Associated is cheating             <ul style="list-style-type: none"> <li>• sometimes did more work than others</li> </ul> </li> <li>- QA consultants             <ul style="list-style-type: none"> <li>• wrong reporting</li> <li>• wrong recommendations</li> </ul> </li> <li>- mix designs             <ul style="list-style-type: none"> <li>• no mix designs in 2014</li> <li>• no approvals</li> <li>• no verifications, only Dufferin</li> </ul> </li> <li>- no trial batches or test strips</li> <li>- imaging – no clue, even burning</li> <li>- A real control is needed             <ul style="list-style-type: none"> <li>• training – not really effective</li> <li>• Golder to do acceptance at for a year, together with City to teach them – like R of Niagara</li> <li>• meetings with                 <ul style="list-style-type: none"> <li>- contractors</li> <li>- QA consultants – standard form, no acceptance – competition</li> </ul> </li> <li>• standard forms for testing for the City in the future</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• compaction             <ul style="list-style-type: none"> <li>- mat OK</li> <li>- joint compaction - not present</li> </ul> </li> <li>- QA consultants – only testing or also acceptance</li> <li>- standard form</li> <li>- Golder – acceptance mix design review trial batches</li> </ul> <p>1/Hamilton</p>
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GOL0007414

Thursday, March 23/17

6/ Hamilton

GOL0007414

Monday, March 27/17

4/ Hamilton – LU, RR Wed.



GOL0007414

Monday, April 3/17

6/ Hamilton – spec., proposal

GOL0007414

Wednesday, April 5/17

3/ Hamilton

<u>Monday, April 17/17</u>	9/ Hamilton - proposal
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GOL0007414

Thursday, April 20/17

4/ Gary Moore

GOL0007414

Monday, April 24/17

3/ Hamilton proposal

GOL0007414

Tuesday, April 25/17

1/ Hamilton – Claudio

GOL0007414

April 28/17

1/ Hamilton

Interview with Kathy

- perpetual pavements – RHVP (Willis  
Chipman) Timmins RBM

GOL0007414

Monday, May 1/17

7/ Hamilton



GOL0007414

IMAGE 18

Wednesday, May 3/17

GOL0007414

Projects – municipal

1/ Hamilton - spec., review

2/ Hamilton – acceptance

GOL0007414

Tuesday, May 9/17

7/ prepare for Hamilton

<u>Monday, May 8/17</u>	<u>Wednesday, May 10/17</u>
6/ Hamilton – preparing for the meeting	1/ City of Hamilton – specs. - remove Marshall mixes

Friday, May 12/17

1/ Meeting with Miller Paving

GOL0007414

Monday, May 15/17

LU 11/ Hamilton

GOL0007414

IMAGE 23

Monday, June 5/17

GOL0007414

3/ Hamilton – spec

4/ Hamilton – QA acceptance

5/ Hamilton – Miller micro



GOL0007414

Friday, June 9/17

8/ Hamilton

GOL0007414

Wednesday, June 14/17

3/ Hamilton - \$34000 left

GOL0007414

IMAGE 27

Friday, June 16/17

GOL0007414

Municipalities

- 3/ Hamilton spec. & PMTR
- 4/ Hamilton acceptance
- 5/ Hamilton RHVP



QA results Gary & Marco

GOL0007414

Friday, June 23/17

4/ Hamilton

GOL0007497

Tuesday, July 4/17

21/ Hamilton – Miller

2/ Hamilton – spec LU

GOL0007414

Wednesday, July 05/17

1/ Eric Marlos (905) 973 1568

Hamilton

<u>Wednesday, July 12/17</u> 3/ Hamilton	<u>Thursday, July 13/17</u> 5/ Hamilton
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GOL0007414

Monday, July 24/17

16/ HAMILTON ! – QA results

GOL0007497

IMAGE 61

Tuesday, July 25/7/17

3/ Hamilton

GOL0007497

IMAGE 62

Other Subjects

1/ Miller – Hamilton

GOL0007414

Wednesday, July 26/7/17

3/ Hamilton 6. 1777238 002

<u>Wednesday, Aug 2/16</u> 3/ Hamilton	<u>Wednesday 6.0 hrs 1777238 002 Hamilton</u>
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<p><u>Wednesday, Aug 9/17</u></p> <p>5/ Hamilton</p>	<p>Municipal &amp; Others</p> <p>1/ Hamilton – acceptance &amp; spec. John Rizzo 905 401 9106</p>
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GOL0007414

Tuesday, Aug 15/17

RHVP – northbound lanes – crack ~ 2km –

v. noticeable, center of the shoulder lane.

Any crack sealing. Crack sealing.

~ ½ inch

GOL0007414

b/ Marco Oddi – visit



<p><u>City of Hamilton</u></p> <p>presentation for 31<sup>st</sup> surface &amp; base at 100mm depth</p> <p>PGAC vs MSCR – ex BBR, DENT Trial batch Table for price reduction</p> <p>Bitumar, McAsphalt, Canadian, } for 31<sup>st</sup> Yellow Line, Coco }</p> <p>Table Sentence about additional testing.</p>	<p><u>Friday, Aug 18/17</u></p> <p>2/ Hamilton</p>
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GOL0007414

IMAGE 40

Monday, August 21/17

GOL0007414

IMAGE 41

3/ Hamilton

GOL0007497

Wednesday, Aug 23/17

2/ Hamilton

16/ Miller – Hamilton

GOL0007414

Friday, Aug 25/17

1/ Hamilton

<u>Wednesday, Aug 30/17</u>	<u>Thursday, Aug 31/17</u>
1/ Hamilton!	1) Hamilton      6500 km, \$5 billion 200 million required Spend ~ 30 million  trial batch Surface at Contractor's own risk. Asset management & operations OGRA - mastic Miller in Hamilton Skid resistance Steel slag MG 58S-28 – <u>verify – confirm</u> 80 mm in 2 lifts When the results are deemed rejectable

<p>Asphalt cement – what to use.</p> <p><u>Tuesday, Sep 5/17</u></p>	<p>8/ Hamilton</p>
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Friday, Sep 8/17

- 1/ Hamilton – friction
- 2/ SWIFT – mixes for airports  
- smoothness
- 3/ Southport
- 4/ Hamilton – spec
- 5/ EIA – trip 02-20
- 6/ CNRL
- 7/ Mississauga parking



GOL0007414

2/ Hamilton

presentation in afternoon

start @ 1:30 pm till 4:00 pm

before October 6<sup>th</sup>

GOL0007414

Monday, Sep 25/17

19/ Hamilton LU

Friday, Sep 29/17

3) presentation for Hamilton ✓ LU VH emails

Gary Moore

Municipal Liaison committee

SMA polishing after 10-11 years, PSV of the original

GOL0007414

Tuesday, Oct 10/17

1/ Hamilton – Mike Becke

Local roads 58-28

<p><u>Thursday, Oct 19/17</u></p>	<p>35/ Hamilton – meeting with Marco 36/ Hamilton – Susan &amp; Mike 37/ Hamilton – Eric Merlos 38/ Hamilton HIR  47/ Hamilton – eng. gala</p>
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Friday, Nov 10/17

6/ Hamilton

27/ Hamilton – spreadsheet

28)/ Hamilton - HIR

<u>Thursday, Nov 16/17</u>	<u>Friday, Nov 17/17</u>
2/ Hamilton tomorrow	1/ City of Hamilton LU

GOL0007414

Tuesday, Nov 21/17

2/ Gary Moore



GOL0007414

Wednesday, Nov 22/17

4/ Gary Moore

Thursday, Nov 23/17

1/ Gary Moore

GOL0007414

Hamilton 1772238

Friday, Nov 24/17

5/ Hamilton

GOL0007414

Friday, Nov Dec 1/17

3/ Hamilton – next week

GOL0007414

Monday, 04/12/17

3/ Hamilton - /Wed/Th

Tuesday, 05/12/17

12/ Hamilton

<p style="text-align: center;"><u>Friday, Dec 8/17</u></p> <p>3/ Hamilton</p>	<p style="text-align: center;"><u>Monday, Dec 11/17</u></p> <p>4/ Hamilton</p> <p style="text-align: center;"><u>Tuesday, Dec 12/17</u></p> <p>7/ Hamilton</p>
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GOL0007414

Friday, Dec 15/17

8/ Hamilton – RHVP –

GOL0007414

Wednesday, Dec 20/17

13/ Hamilton - PSV

Tuesday, Jan 2/18

8/ Hamilton – PSV (next week) – HIR/, spec, pav. cond.  
summary - report  
lab testing scheduled this week next week



Thursday, Jan 4/18

i/ Gary Moore HIR

j/ Marco Oddi

GOL0007414

Friday, Jan 12/18

4/ Hamilton PSV

GOL0007497

Tuesday, Jan 30/18

√ 5/ Dave Hein

√ 10/ Hamilton

<p><u>Friday, Feb 2/18</u> 2/ Hamilton – Claudio</p>	<p><u>Friday, Feb 9/18</u> 24/ Hamilton</p>
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GOL0007414

IMAGE 67

Tuesday, Feb 13/18

GOL0007414

8/ Hamilton PSV

GOL0007414

Friday

3/ Hamilton

GOL0007414

IMAGE 70

Tuesday, Feb 20/18

4) Hamilton – PSV



GOL0007414

IMAGE 71

Friday, Feb 23/18

- 1) Hamilton
- MSCR spec
- PSV investigation

GOL0007414

Thursday, March 1/18

8/ Hamilton – RHVP – Mike Becke

Thursday, March 8/18

3/ Preparing for Hamilton

5/ Hamilton – preparation for the meeting

<p style="text-align: center;"><u>Friday, March 9/18</u></p> <p>1) City of Hamilton</p> <p>- HIR of SMA</p> <ul style="list-style-type: none"> <li>• concerns</li> <li>• laboratory investigation required</li> <li>• test section before HIR</li> </ul> <p>- Apply microsurfacing Type III to address surface inconsistencies</p> <ul style="list-style-type: none"> <li>• is the City comfortable with micro</li> <li>• we have number of contractors who can do it</li> </ul> <p>- what to do with test results (PSV...)</p> <p>- HIR recycled SMA will no longer be SMA; check the characteristics of the mix to make sure it is strong enough to support the traffic without deformation and cracking</p> <p>- microcracking ~ 7 years</p> <p>HIR ~ 6-10 years</p> <p>- micro can crack but will not spall because of polymer</p> <p>- lift thickness – 40 mm or 50 mm ?</p> <p>- Ecopave got the project in Th Bay</p>	<p style="text-align: right;">\$12 /m<sup>2</sup></p> <p>- skidabrading for now – no – public</p> <p style="text-align: center;"><u>Tuesday, March 13/18</u></p> <p>3/ Hamilton – talked to Mike Becke</p> <p style="text-align: center;"><u>Wednesday, March 14/18</u></p> <p>10/ Hamilton – ECOPAVE – their own mix, Golder – feasibility study (like CIREA – feasibility study)</p>
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GOL0007414

Thursday, March 15/18

1) Hamilton – Mike Becke

- test results – leave them
- HIR
- CIREAM – polymer modified AC

Friday, March 16/18

4/ Hamilton

GOL0007414

## RHVP – PSV and other subjects

A) 1) Texture OK

2) BPN – v. variable, average good (39.4), but ranges from 21 to 62

- unreliable – weather issue

3) SN from Tradewing Scientific Av 35 and 38 but variable

4) SN from MTO 2007, Av. good 32 for new SMA, 34.9 &, 34.8  
but have low values under structures5) PSV = 45 - traprock medium, limestone - low (30-42)

- traprock with 50 is v. good

6) Dolomitic sandstone – the best ~ 55

Conclusion – somewhat risky to reuse it in the surface course

Gary – results inconclusive

B) Speed – monitoring station data indicated that during  
no rush hours only low % drivers follow the speed limit  
90 km/h speed as high as 120+C) Loading – much exceeded the prediction. The loading in  
6 years as high as would be anticipated between Year 9 and 15.  
And maximum wheel loads were drastically exceeded (discussed  
possibility of portable weight station and speed control).

D) Issues – top down cracking and dips/bumps

Pat Weiley says ~~it would be~~ he has never done hot in-place  
recycling of SMA so he did not want to do it on RHVP,  
main road in Hamilton. Also, changing the gradation  
and other aspects from SMA to SP 12.5FC2 would be

GOL0007414

impossible according to Pat.

Option 1 Mill Overlay – mill 40 mm (use millings on other projects for low speed roads) and repave with 50mm new HMA SP12.5FC2. Use dolomitic sandstone if possible/feasible – 10 mm elevation raise.  
as a binder course

Option 2 Hot-in-place recycle the SMA to a depth of 40 mm and place a very thin surface course – 40 mm of SP 12.5 FC2. Use dolomitic sandstone if possible. Elevation raise – 40 mm.

The last FWD was done in 2013 including coring. Cracks were shallow, only in the surface course. Repeat FWD and check the condition, particularly where the flooding was. There were locations where subgrade was weak. Inspect pavement before the rehab.

Address – dips/bumps, cracking (top down), potential aggregate subject. Control drainage condition.

Warning! Neither Option 1 nor Option 2 will solve the accident hazard issue. The speed has to be controlled. Skid hazard increases drastically when the speed increases.

GOL0007414

RHVP PSV

1) BPN	43
	26
	47
	21
	23
	35
	22
	49
	33
	41
	46
	50
	51
	41
	54
	26
	45
	46
	49
	37
	33
	47
	44
	35
	30
	29
	36
	43
	38
	62
Av.	39.4
SD	10
Min	21
Max	62



GOL0007414

RHVP

1) HIR of SMA + microsurfacing

microsurfacing

 $7,000 \text{ m} \times 15 \text{ m} = 105,000 \text{ m}^2$  $105,000 \text{ m}^2 \times \$6/\text{m}^2 = \$630,000$  can be \$5Bonded wearing course - \$ /m<sup>2</sup>

2) Mill &amp; overlay 50 mm

- milling \$2.0/m<sup>2</sup> 105,000 m<sup>2</sup> x \$1.5/m<sup>2</sup> = \$200,000

- overlay 0.125 x 105,000 x 2.5 x 110 = \$3,600,000

Total ~ \$4,000,000

GOL0007414

[his page is a printed report from James Fisher Testing Services (Ireland) Ltd. Refer to GOL0001596 at image 80.]

GOL0007414

[This is a printed table of measured texture depth completed by Golder. Refer to GOL0001596 at image 81.]

GOL0007404

IMAGE 1

March 28/2018

to

April 23/2019

GOL0007404

Wednesday, March 28/18

19/ Hamilton HIR

GOL0007404

Thursday, April 12/18

3/ Hamilton

GOL0007404

Friday, April 13/18

20/ HAMILTON HIR 21/ HAMILTON SPEC

GOL0007404

Wednesday, April 18/18

1/ Hamilton – meeting with  
Graeme, Vimy, Michael  
and John – it will go to  
PRC



GOL0007404

Thursday, April 26/18

5/ Hamilton

GOL0007404

Friday, April 27/18

v 6/ Hamilton

7/

GOL0007404

Monday, April 30/18

City of Hamilton

GOL0007404

Monday, May 14/18

1/ Meeting with the City of Hamilton

- HIR on RHVP
  - sampling
  - Rick – funding
  - expectations
  - sampling – soon
  - decide ASAP
  - Pamela & Heather Bell for MTO  
(& fiber in the mix)  
2 projects for HIR in 2019
  - not SMA but SP12.5 FC2
  - proposal
    - sampling method
    - hybrid mix, VMA & other aspects
  - this fall – get on the roster
    - Whitby lab
      - sampling – core through cracks

Mike is back on the 22<sup>nd</sup>

- Gary – what is outstanding
  - breakdown for Mike
  - PSV report – inconclusive
  - MSCR
  - HIR
  - pav. condition – blasting no

GOL0007404

*[This page contains a drawing that has not been reproduced here – refer to GOL0007404 at image 10]*

GOL0007404

IMAGE 11

Wednesday, May 16/18

GOL0007404

9/ Gary Moore

10/ Hamilton proposal

GOL0007404

Tuesday, May 29/18

5/ Hamilton – proposal



GOL0007404

Tuesday, June 12/18

7/ Hamilton

GOL0007404

IMAGE 15

Thursday, June 14/18

GOL0007404

IMAGE 16

1/ Hamilton

GOL0007404

Thursday, June 21/18

7/ Hamilton

GOL0007404

Tuesday, June 26/18

6/ Hamilton HIR,

GOL0007404

2/ City of Hamilton – Mike Becke v

3/ ~~Region of Peel~~ Gary Moore v

GOL0007404

Wednesday, June 27/18

2/ Hamilton HIR

GOL0007404

Wednesday, July 4/18

6/ HIR Hamilton



GOL0007404

Tuesday, Aug 7/18

11/ Hamilton RHVP

- legal - ? – with Mike
- technical – other direction in August

GOL0007404

Friday, Sep 14/18

3/ Hamilton

GOL0007404

Tuesday, Sep 18/18

Thursday, Sep 20/18

√ 8/ Hamilton HIR – samples in Whitby, Mike needs comment at beginning of October

9/ Hamilton spec.

10/ Hamilton roster

11/ Hamilton - dinner

GOL0007404

This page is redacted.

GOL0007404

59/ Gary Moore

<u>Friday, Sep 21/18</u>	<u>Monday, Sep 24/18</u>
1/ Hamilton HIR	4/ HIR extraction/gradation full mix design DST report feasibility 2 years ago  EIA conference call  Peter Shallard – specificity, measurement, accountability, deadlines, play.

GOL0007404

Tuesday, Sep 25/18

3/ Hamilton HIR

GOL0007404

Thursday, Sep 27/18

2/ Hamilton HIR



GOL0007404

Thursday, Oct 18/18

1/ City of Hamilton

Pat 250 851 9991

1999 Hamilton

Test – pen, gradation as it is

Only air voids. 1.5 – 4% ? don't agree

High stability numbers

Up to ~4km wide

add rejuvenator by volume added to  
(typical 0.5L/m<sup>2</sup>) the chamber

Oil compatible with AC.

~ 3 L/ton

No segregation

Surface ~ 70°C after milling

Pickup conveyor

4-5 m/min in the city 1.8 km/day

Highway 2.5 km/day lane km

Train ~ 300 m in total length

incl. preheaters

2 vibratory passes – full density

Road mix –

Acetifin, second acetifin, hydro carbon  
polar compound, asphaltero, Aggregate

The same oil as before. - rejuvenator oil

GOL0007404

Pen & viscosity

No PG test

Why 100% recycling – problems with new mix

Slag – not for HIR

SMA – OFC

Don't do 40 mm, only 50 mm.

Scarborough, Richmond Hill

\$12/m<sup>2</sup> for everything for 50 mm HIR

Min 150,000 m<sup>2</sup>

GOL0007404

16/ Hamilton HIR

Monday, Oct 22/18

11/ Hamilton HIR

GOL0007404

Monday, Oct 29/18

5/ Hamilton HIR

6/ Hamilton review

GOL0007404

Thursday, Nov 1/18

10/ Robert Bowerman EnviroTech HIPR

Exactly the same as in 1994-98

Hamilton

RHVP

April, May, June – Peel – Bob Neuhenser

Meet air voids, volumetrics, .....

pugmill

equipment made in their own shop

interlayer ? –

Martec, Taisei – Rob set up a meeting with  
Rob Burlie, John, Frank & Rob Bowerman

GOL0007404

100% hydrolin oil – with Engtech

ex BBR, Finch Av – Dufferin & Bathurst

7% & 10% pen 42 @ 7

85-100 original AC 62 @ 10

- Pam Marks & Heather Bell yesterday

- if you can do 100% recycling

Ray Bonaquist – did work for them

88-10, after added oil 72-22

- now tested for ex BBR and other properties

- refineries cheated, failures, 30% recycled  
oil

- no direct flame

- Ecopave has direct flame in number one
- Enviro has some direct flame
- Infrared 1500-2000

- about 2t pugmill

- 50 mm in one lift vs. in 3 lifts

<p><u>Tuesday, Nov 20/18</u> 2/ Hamilton</p>	<p><u>Wednesday, Nov 21/18</u> 14/ Hamilton HIR – call Jeremy &amp; Ryan Hobson</p>
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<u>Thursday, Dec 6/18</u>	<u>Friday, Dec 7/18</u>
4/ Hamilton	1/ Hamilton – 2/ Hamilton HIR



<u>Monday, Dec 10/18</u>	<u>Wednesday, Dec 12/18</u>
<p>1/ Hamilton friction</p> <ul style="list-style-type: none"><li>- history</li><li>- client relationship</li><li>- what to say</li><li>- should I send the report</li></ul> <p>no spec in Ontario for PSV no negative problem with aggr any safety audit? City should do Tradewind – some concerns but not drastic skid resistance – a contributory factor</p> <p>Send Michael job #</p> <p>2/ Hamilton HIR</p>	<p>1/ Michael Maher</p> <ul style="list-style-type: none"><li>- Hamilton</li><li>- rock tunnel</li></ul> <p>4/ Hamilton HIR 5/ Hamilton RHVP – Tony Linardi</p> <p>11/ Report for Gord, Hamilton</p>

GOL0007404

Friday, Dec 14/18

3/ Hamilton

GOL0007404

<p style="text-align: center;"><u>Tuesday, Dec 18/18</u></p> <p>1/ Meeting with Gord McGuire from City of Hamilton about RHVP 10:00 am to 11:00 am</p> <p>a/ hand out the draft report b/ present the history of SMA on RHVP – do not use names, just say the City</p> <p>c/ construction in 2007, SMA surface course, Dufferin Construction,</p> <p>d/ Used technologies for skid improv.</p> <ul style="list-style-type: none"> <li>- microsurfacing – good but expensive</li> <li>- shot blasting/ skid abrading/ blasting/blast tracking – low cost but doesn't fix other issues</li> <li>- other – v. expensive</li> </ul> <p>e/ 2007 SN measurements by MTO – (average good, a few lows under structures) – will improve</p> <p>f/ 2013 hired TradeWind Scientific for skid testing – report early 2014</p> <ul style="list-style-type: none"> <li>- no email with report requested by the City</li> <li>- hard copy delivered, discussed,</li> </ul> <p>The skid hazard is still there! →</p>	<p>- micro, blasting, no PSV</p> <p>Gord – Report on performance after 6 years</p> <p>g/ √ 2015/2016 – bumps &amp; dips, skid improvements recommendations, LU contacting contractors, final decision – no</p> <ul style="list-style-type: none"> <li>- report on dips – send to Gord, emails – ask Tony</li> </ul> <p>h/ some discussions about friction on RHVP after – blasting – no</p> <p>i/ 2017 proposal and investigation PSV, texture, BPN – light snow and temp. &lt; 0 – not reliable, PSV 45 medium, texture good.</p> <p>Meeting on March 9/2018 and discussed HIR, results presented.</p> <p>Considered inconclusive, no report.</p> <p>Explained by the City people that they cannot do shot blasting because this would show the public there was a problem with RHVP pavement – admitting guilt and getting the blame.</p> <p>j/ <u>excessive speed</u> – exponential skid hazard traffic loading much higher than designed – accelerated pav. deterioration – numerous times – Police control</p>
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GOL0007404

I was informed that the City is working with CIMA – safety aspects on RHVP including speed, geometry, loading. I don't know if friction is included.

GOL0007404

Thursday, Dec 20/18

2/ HIR Hamilton

3/ Hamilton RHVP

<p><u>Monday, Jan 7/19</u></p> <p>2/ Hamilton</p>	<p>2/ Hamilton HIR &amp; notes</p>
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GOL0007404

Monday, January 14/19

2/ Hamilton RHVP

12/ Hamilton HIR

Wednesday, Jan 16/19

1/ Put a work order  
scope of work ——— Hamilton RHVP  
meeting with Tony and Graeme

Thursday, Jan 17/19

3/ Called Mike Becke about SMA HIR  
on the RHVP

- asked to continue testing – AC
- complete the report even if  
HIR is not feasible
- Mike has passed my draft  
HIR SMA report to Gord



<p><u>Tuesday, Jan 29/19</u></p> <p>6/ Gord McGuire – we didn't put - this material down 2016, 2017 3 sets of measurements – a lot of</p>	<p>- materials will go to the council. PSV av/medium CIMA road side safety,.... information has the correct contract. - correspondence – the City is going to pay Golder, exchanges with the City. - background – there will be media attention to this. They will be coordinating the communication with media. The City would like to manage the response.</p> <p><u>Wednesday, Jan 30/19</u></p> <p>1/ Hamilton</p>
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GOL0007404

5/ Hamilton RHVP

6/ Hamilton HIR

GOL0007404

Friday, Feb 8/19

1/ Hamilton RHVP

GOL0007404

Monday, Feb 11/19

1/ Hamilton RHVP

2/ Hamilton HIR

GOL0007497

10/ Gord McGuire – sent a text asking him to call me on my cell.

Tuesday, Feb 12/19

3/ Hamilton – conference call with  
Domenic Pellegring – auditor from  
the City of Hamilton.

- the conference call will go on
- cannot answer if with legal
- preparing questions before the meeting.
- no council because of weather.
- questions in about 5 – 10 minutes

Charles Brown                      2207

Richard B[*text could not be confirmed*]

Domenic Pellegrini

- questions

GOL0007497

- purpose of the audit
- in depth review, improvement opportunity

- Questions

1/ GripTester

2/ ASTM E274

3/ Gary Moore

4/

5/ GripTester vs FN

6/ Speed 90km/h vs 50km/h

7/

8/ Other than Gary

Tradewind

Numbers

Respond to Gord or Charles?

Answers directly to Charles, not to Gord, likely.

Timeline – week or two, more complex more. External experts. Potentially they can sue us.

GOL0007404

Monday, Feb 25/19

11/ Hamilton HIR }  
12/ Hamilton RHVP } tomorrow

GOL0007404

Tuesday, Feb 26/19

4/ Hamilton 1

5/ Hamilton 2

Wednesday, Feb 27/19

1/ Hamilton



GOL0007404

Thursday, March 7/19

6/ Hamilton HIR

GOL0007497

Monday, March 11/19

2/ Hamilton HIR

8/ Dave Hein

GOL0007404

Friday, March 15/19

12/ Hamilton HIR

GOL0007404

28/ Hamilton – Gord

<p><u>Monday, April 1/19</u></p>	<p>8/ HIR Hamilton – Mike PSV in Hamilton mixes</p>
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