Maine Department of Transportation
Highway Program

GEOTECHNICAL SERIES 100 REPORT

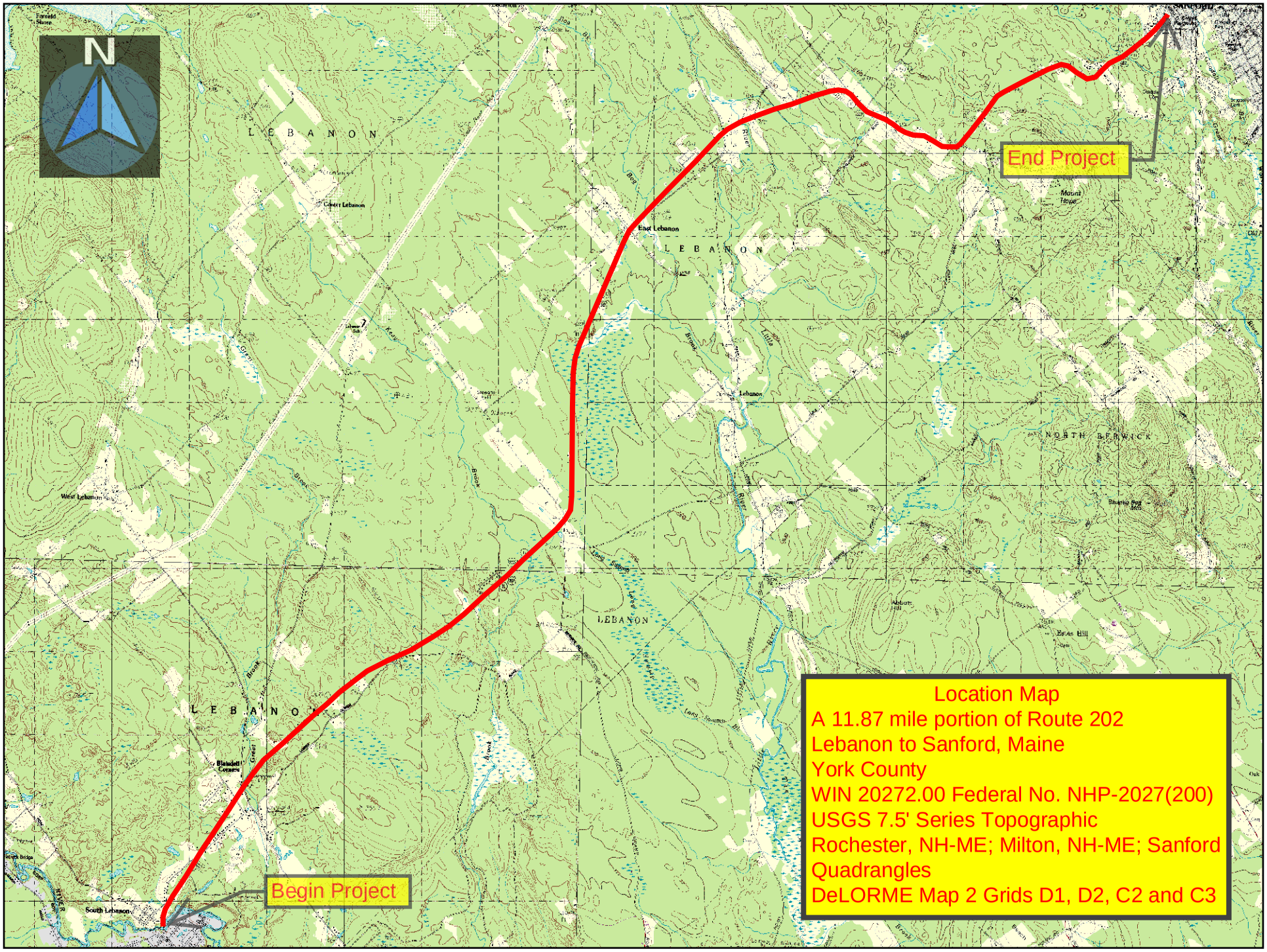
Route 202
Lebanon, Sanford, Maine

Prepared by:
Scott A. Hayden, C.G.
Soils Research Scientist

York County

WIN 20272.00
Fed Project #: NHP-2027(200)
February 6, 2014

Soils Report No. 2014-109
TEDOCS # 1350695



Map Scale 1:64000

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Highway Program

Brad Foley, Program Manager

Memorandum

DATE: February 6, 2014

TO: Denis Lovely **DEPT:** Region 1, Highway

FROM: Scott A. Hayden **DEPT:** Highway Program

SUBJECT: Lebanon - Sanford, Route 202, WIN 20272.00
Geotechnical Pavement Report No. 2014-109

Project Information

A geotechnical pavement assessment investigation has been completed for the rehabilitation/preservation of an 11.87 mile portion of Route 202 in the towns of Lebanon and Sanford. The investigation begins at the New Hampshire line and extends easterly on Route 202 for 11.87 miles to the intersection of Ridgeway Avenue. Stationing was provided in the field by Region 5 personnel at a 2000 foot interval between stations 10+00 and 520+00. Beyond station 520+00 stationing in the field becomes sporadic to non-existence. A start station of 10+00 (RLM 0.01) and an ending station of 636+73 (RLM 11.87) were utilized. All references to stationing in this report are based on painted field stationing (where available) and stationing determined using a vehicle mounted distance measuring instrument (DMI).

The scope of this geotechnical investigation was limited to the collection of falling weight deflectometer (FWD) data, ground penetrating radar (GPR) data and the cutting of pavement cores.

Existing Pavement Data

ARAN Data Summary

Pavement distress varies generally from low to moderate consisting primarily of cracking (fatigue, block, transverse, longitudinal) and rutting. It is anticipated that this pavement distress is due to frost effects, traffic loading, and fatigue.

A summary of the 2011 ARAN data is presented in Table 1 below. A complete listing of the ARAN data is presented on the Pavement Performance Assessment Summary (PPAS) found at the back of this report.

Table 1: Summary of 2011 ARAN Pavement Data

ARAN Pavement Data	Range	Average
Pavement Condition Rating (PCR)	2.82 – 4.20	3.47
International Roughness Index (IRI)	74 - 200	118
Rut Depth (left)	0” – 0.4”	0.23”
Rut Depth (right)	0.1” – 0.4”	0.22”

Pavement Condition Rating (PCR)

PCR is defined as the composite condition of the pavement on a roadway. The PCR is compiled from the severity and extent of pavement distresses such as cracking, rutting, and ride quality. The rating system uses a scale of 5.00 (perfect) to 0.00 (fully deteriorated). The PCR is the condition of the pavement only, not necessarily a reflection of the condition of the roadway base structure. A description PCR rating follows:

Scale Value	Scale Rating	Description
5	Excellent	New or nearly new pavements. Free of cracks, patches or rutting.
4	Good	Pavements exhibit little to no visible signs of surface deterioration. Evidence of initial cracking or rutting.
3	Fair	Visible defects including moderate cracking, distortion and rutting. Some patching may now be present.
2	Poor	Pavement deterioration consisting of advanced cracking and severe distortion. Extensive patching and rutting also present.
1	Very Poor	Extremely deteriorated pavements. Defects include severe cracking, distortion, rutting and typically very extensive patching.

The PCR rating for this project ranges from 2.82 – 4.20 with an average PCR of 3.47. The PCR rating is low (≤ 3.5) between stations 133+00 – 156+00, 221+00 – 313+00, 344+00 – 372+21 and 436+00 – 630+00. The lowest value (2.82) was encountered between stations 436+00 and 460+00.

International Roughness Index (IRI)

Ride quality is expressed in terms of International Roughness Index (IRI) and is measured in inches per mile. IRI is a measurement of the inches of vertical displacement experienced by a vehicle in a mile of roadway. The lower the IRI, the smoother the ride will be. A description IRI scale follows:

IRI Value (In./mile)	**Ride Rating**
< 100	Good Ride
100 - 170	Fair Ride
> 170	Poor Ride

The IRI value for this project ranged between 74 - 200 in/mile with an average IRI value of 118 in/mile. The IRI values are greater than 170 (poor ride) between stations 530+00 – 561+00 (value 169) and 591+00 – 630+00. The poorest value (200) was encountered between stations 591+00 – 620+00.

Wheel Path Rutting Values

Wheel path rutting is present throughout the project. However the rut depths do not exceed the ≥ 0.5” value so this rutting is not identified (shaded) as a deficiency on the Pavement Performance Assessment Summary report. However, it should be noted that rut depths of 0.4 inches are present between stations 102+00 – 155+00, 223+00 – 313+00 and 436+00 – 466+00.

Existing HMA Thickness

Existing pavement thickness estimates have been provided based on pavement coring and ground penetrating radar data.

Coring Data – Twenty-three pavement cores were obtained using a stand mounted, Milwaukee electric coring drill utilizing a 4" thin wall core bit. Pavement cores were drilled at stations 50+00, 140+00, 240+00, 320+00, 374+00, 420+00, 540+00 and 600+00 (See attached pavement core summary sheet). After coring the cores were transported to the Bangor Lab where they were photographed and stored. Photographs of the cores are included at the back of this report as part of the GPR documentation. A summary/comparison of the existing pavement thickness derived from coring data verses the GPR data is shown below in Table 2.

GPR Data – The GPR data confidence level is "very good" for this project. GPR reflection layers are described as strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores**.** GPR data was collected at 1 foot intervals in the left and right wheel path of both the east and west bound lanes. Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement core thicknesses were used to ground truth the GPR data. The GPR pavement estimate data is presented on the attached GPR Estimated Pavement Thickness summary sheets as an average pavement thickness every 50' for each travel lane. A spread sheet containing the GPR data at 1 foot intervals is also available at Y:\20272\00\GEOTECH\MSTA\GPR Data.

A summary/comparison of the existing pavement thickness derived from coring data verses the GPR data is shown below in Table 2.

Table 2: Pavement Thickness Summary/Comparison

	Travel		**Shoulder**	
	Westbound	**Eastbound**	**Westbound**	**Eastbound**
Pavement Core Data				
Range of Thickness	5.5" – 11.0"	6.25" – 10.5"	2.0" – 4.25"	1.75" – 3.5"
Average Thickness	7.6"	7.3"	2.8"	2.8"
Ground Penetrating Radar Data				
Range of Thickness	4.2" – 10.7"	4.0" – 10.8"	-	-
Average Thickness	6.5"	6.4"	-	-

Westbound Truck Lane(s)			**Left Turn Lane Eastbound**
	531+80 – 550+48	**577+30 – 628+38**	**468+00 – 489+50**
Pavement Core Data			
Range of Thickness	6.5"	-	-
Average Thickness	6.5"	-	-
Ground Penetrating Radar Data			
Range of Thickness	6.5" – 8.7"	6.0" – 10.3"	6.1" – 7.5"
Average Thickness	7.1"	7.7"	6.7"

FWD Results

FWD data was collected every 500 feet along the project site. A summary of the FWD analysis is shown in Table 3 below.

FWD Analysis

An FWD analysis was conducted using the following variables:

Design Life: 12
Initial Serviceability: 4.5
Reliability Level: 95
Future 18-kip P2.5 ESALs (Design Life): 2,444,040
Terminal Serviceability: 2.5
Overall Standard Deviation: .45

Pavement depths used for DARWin analysis were taken from Ground Penetrating Radar Summary sheet included at the back of this report. Actual gravel depths are unknown. An assumed gravel depth of 24 inches was used for the DARWin analysis. A summary of the FWD analysis is shown in Table 3 below.

Table 3: FWD Analysis Summary

Design Variables	% Pass	Range	Average	75th Percentile
Existing SN exceeds Future SN	100 %			
Pavement Modulus (psi)		65,001 – 210,423	125,284	104,400
Subgrade Resilient Modulus (psi)		4,077 – 13,703	7,795	6,390

Existing Structural Number - The existing structural number exceeds the future structural number throughout the project.

High Subgrade Resilient Modulus Values – Very high (>10,000psi), subgrade resilient modulus values (M_r) were encountered along the project site. This may be due to a relatively shallow bedrock surface.

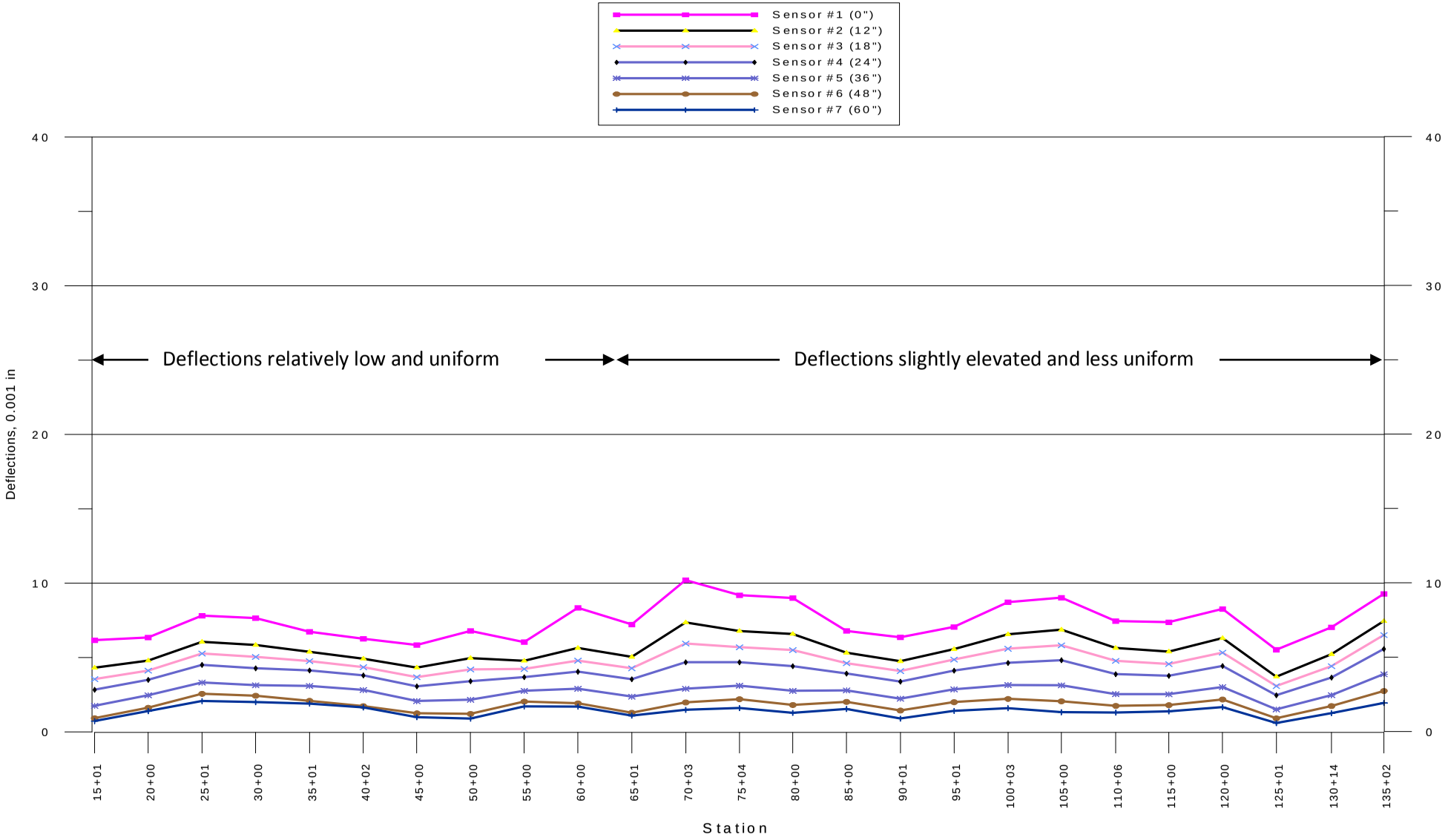
FWD Deflection Plots and Interpretation

FWD deflection plots are a graphical presentation of the numerical deflection values measured in mils (thousandth of an inch) obtained from the 7 recording sensors during testing. The plots are one of a combination of geotechnical tools used when assessing the existing pavement and subsurface soil conditions and relative pavement performance. Variation in the deflection plots can indicate changes in the pavement and subsurface soil conditions and ultimately the existing and future pavement performance expectations. Low (<10mils) and uniform deflections generally indicate uniform and more favorable subgrade conditions. When deflections increase and/or become less uniform, this is commonly the result of less favorable pavement and subsurface conditions and/or changes in the soil conditions such as soil type, layer thickness, silt content, plasticity and water content. Changes in deflections are generally further examined and understood through the use of subsurface explorations. The deflection plots for this project are included on the following pages.

MaineDOT

FWD DEFLECTION DATA

WIN/Town:	020272.00 - Lebanon, Sanford			Reported By:	COLSON, STEPHEN W		
Route:	11/202	PMS Route Code:		Tested:	10/16/2013	Reported:	2/4/2014
Comments:	Deflection comments provided by Scott Hayden						



MaineDOT

FWD DEFLECTION DATA

WIN/Town:	020272.00 - Lebanon, Sanford			Reported By:	COLSON, STEPHEN W		
Route:	11/202	PMS Route Code:		Tested:	10/16/2013	Reported:	2/4/2014
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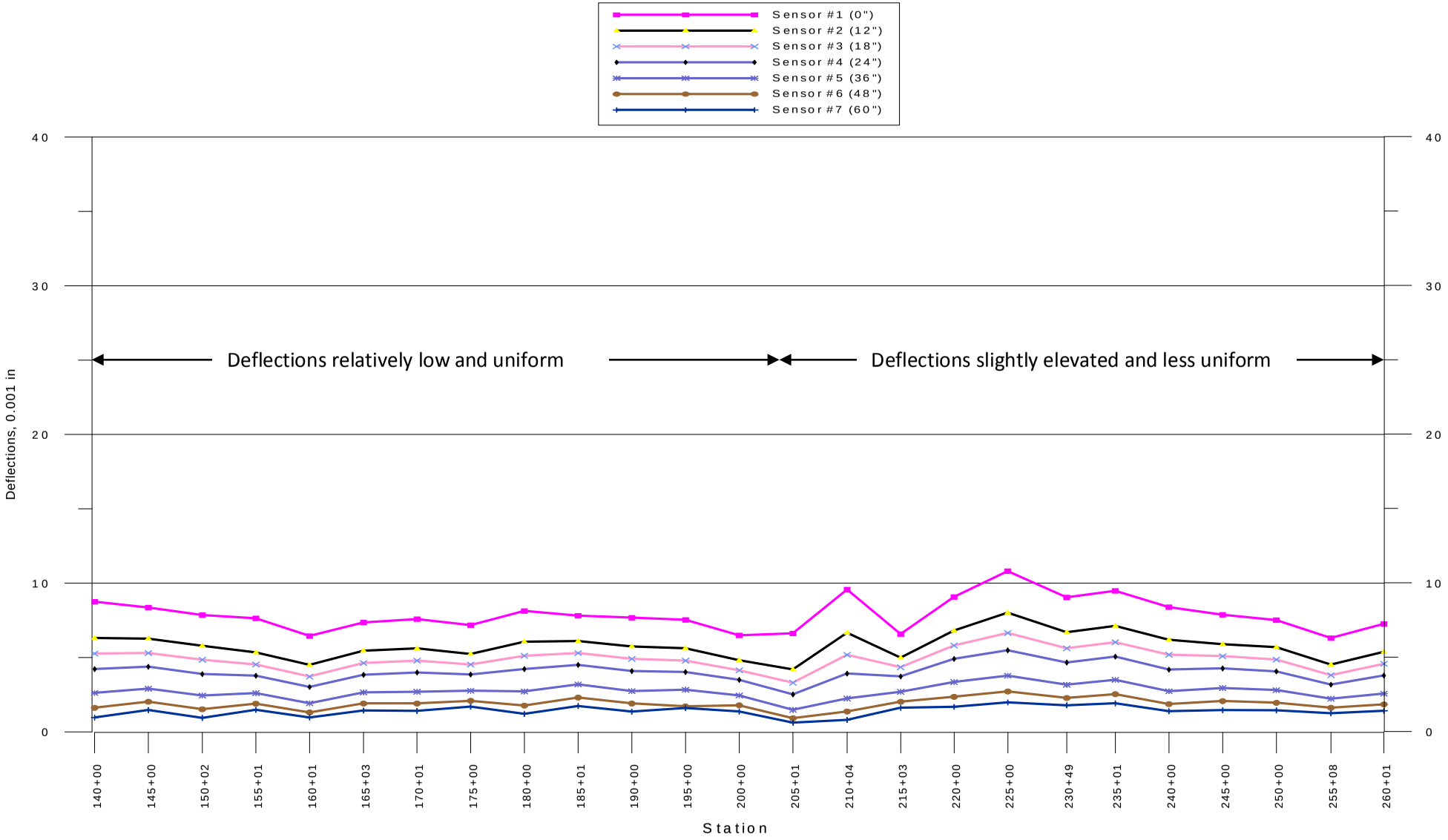

MaineDOT

FWD DEFLECTION DATA

WIN/Town:	020272.00 - Lebanon, Sanford			Reported By:	COLSON, STEPHEN W		
Route:	11/202	PMS Route Code:		Tested:	10/16/2013	Reported:	2/4/2014
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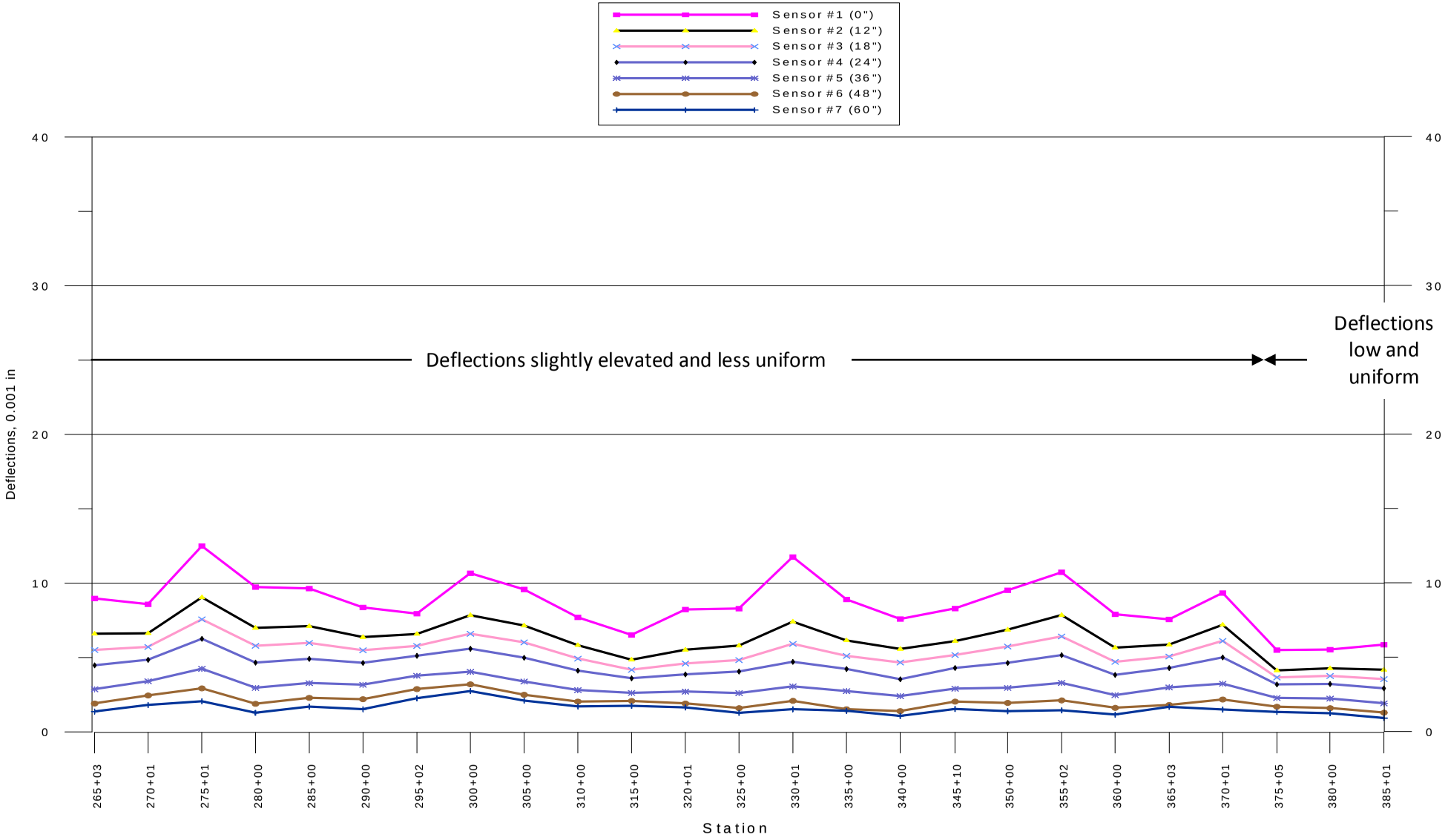

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FWD DEFLECTION DATA

WIN/Town:	020272.00 - Lebanon, Sanford			Reported By:	COLSON, STEPHEN W		
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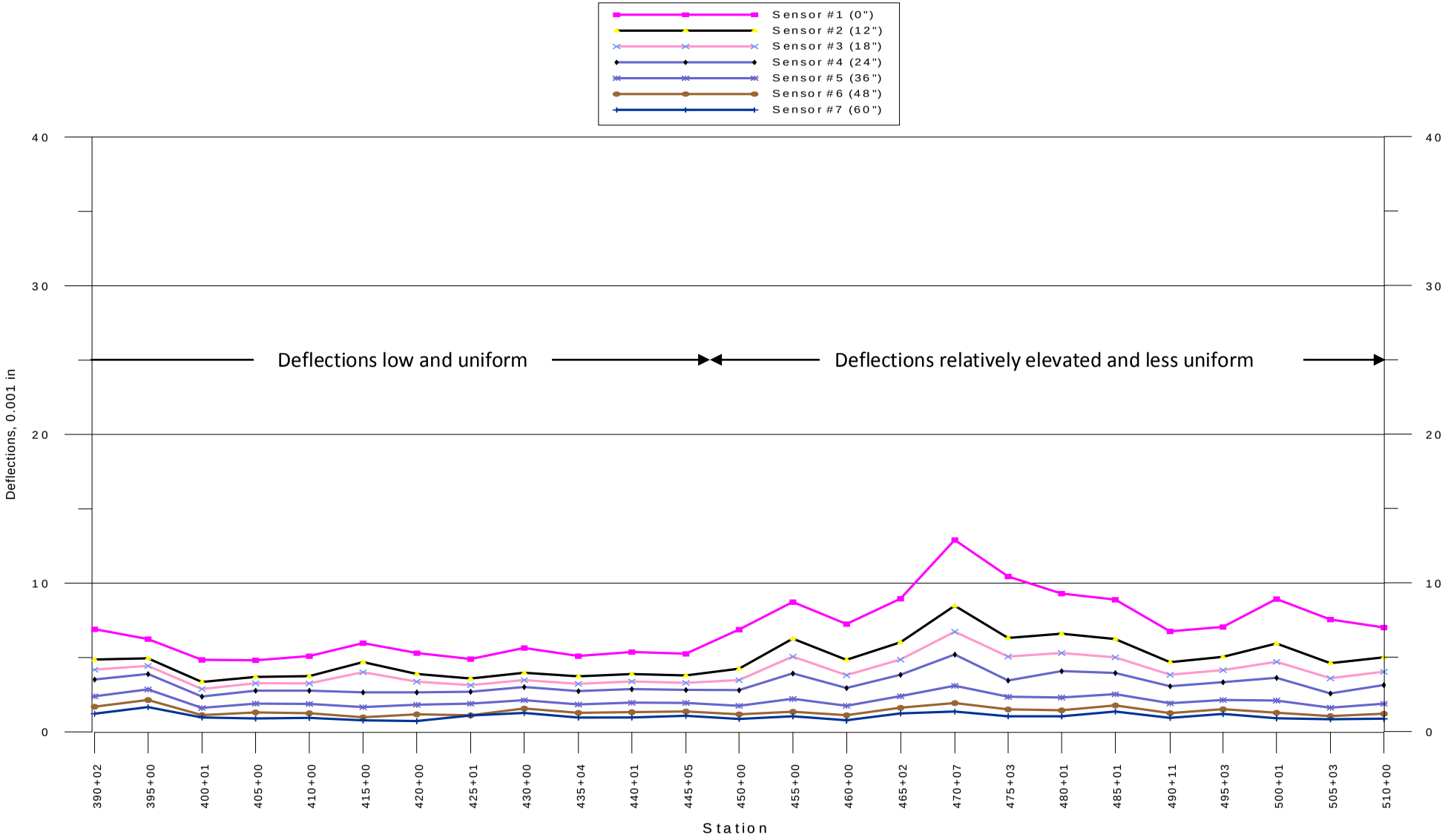

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FWD DEFLECTION DATA

WIN/Town:	020272.00 - Lebanon, Sanford			Reported By:	COLSON, STEPHEN W		
Route:	11/202	PMS Route Code:		Tested:	10/16/2013	Reported:	2/4/2014
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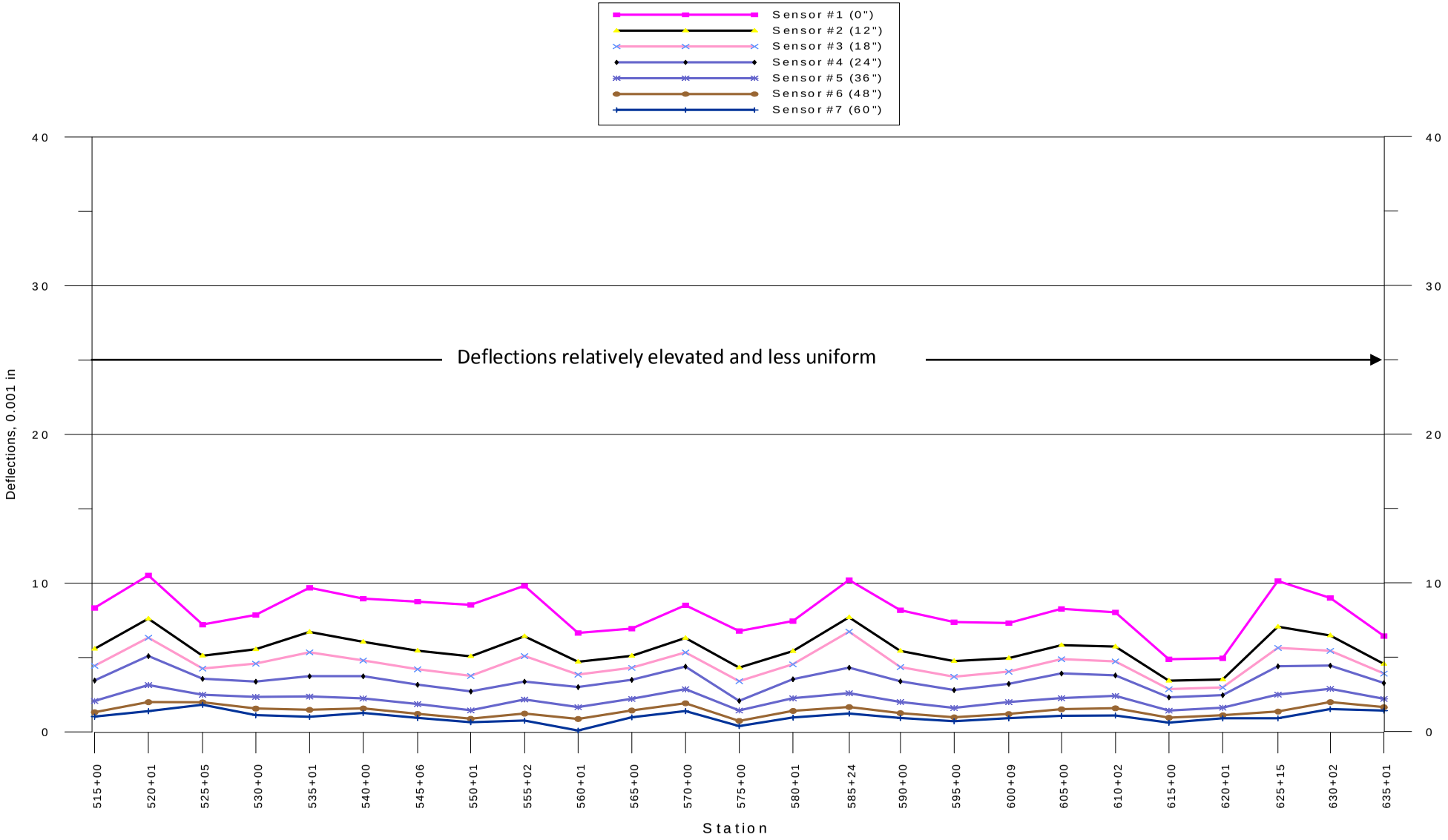


Pavement Performance Assessment Summary

A Pavement Performance Assessment Summary (PPAS) has been provided for this project. The PPAS is a relative performance evaluation tool produced utilizing data obtained from FWD and ARAN testing. The data utilized from the FWD includes the deflections, existing structural number, and future structural number. The data utilized from the ARAN include the Pavement Condition Rating (PCR), International Roughness Index (IRI), and rutting depths from both wheel paths.

The purpose of the PPAS is to highlight relative differences in the existing roadway conditions/performance. Areas that are performing relatively better may require less substantial rehabilitation needs and may be at lower risk of existing/future pavement failure. Areas that are performing relatively worse may require more substantial rehabilitation needs and may be at higher risk of existing/future pavement failure. If substantial segments of a project are identified as having considerable performance differences, variable rehabilitation measures can be considered for each of these areas. The use of variable rehabilitation measures along a project may better meet the engineering needs along the project and may result in a reduction of overall cost.

Six potential performance criteria are used to develop the PPAS. An explanation of the six criteria used to create the PPAS is included at the back of the PPAS. The Pavement Performance Assessment Summary follows on the next page.

Based on the Pavement Performance Assessment Summary sheet(s)
the worse area(s) along this project (2 deficiencies) are between stations:

133+00 – 151+00, 253+00 – 284+00, and 530+00 – 630+50.

Pavement Performance Assessment Summary

(PPAS)

20272.00 Lebanon - Sanford

Route 202

		PERFORMANCE MEASURESUREMENTS								GENERAL PAVEMENT INFORMATION					
		Deficiencies	GPR	FWD Data		ARAN Performance Data				ARAN Supplemental Data					
Station	RLM	# Performance Deficiencies (0 - 6)	Pave Thck in	Existing SN < Future SN	Increased FWD Pavement Deflections	PCR ≤ 3.5	IRI ≥ 150	Wheel Path Rutting ≥ 0.5"		Inv Yr	Shoulder Type and Width				Yr. Resurf.
								Left	Right		Left		Right		
								(in.)	(in.)			ft		ft	
10+00	0.01	0	5			3.71	88	0.2	0.2	2011	Paved	6	Curb	4	
11+06	0.03	0	5			3.71	88	0.2	0.2	2011	Paved	6	Curb	4	
12+64	0.06	0	6			3.71	88	0.2	0.2	2011	Paved	6	Paved	8	
13+70	0.08	0	5			3.71	88	0.2	0.2	2011	Curb	8	Paved	8	
15+28	0.11	0	5			3.71	88	0.2	0.2	2011	Curb	8	Paved	8	
15+81	0.12	0	7			3.71	88	0.2	0.2	2011	Curb	8	Paved	8	
16+86	0.14	0	6			3.71	88	0.2	0.2	2011	Curb	8	Paved	8	
17+39	0.15	0	5			3.71	88	0.2	0.2	2011	Curb	12	Paved	8	
18+98	0.18	0	5			3.71	88	0.2	0.2	2011	Curb	12	Paved	8	1999
19+50	0.19	0	4			3.71	88	0.2	0.2	2011	Curb	12	Paved	8	1999
20+03	0.2	0	5			3.71	88	0.2	0.2	2011	Paved	8	Paved	8	1999
21+09	0.22	0	5			3.71	88	0.2	0.2	2011	Paved	8	Paved	8	1999
23+20	0.26	0	6			3.71	88	0.2	0.2	2011	Paved	8	Paved	8	1999
36+93	0.52	0	5			3.71	88	0.2	0.2	2011	Paved	8	Paved	8	1999
40+10	0.58	0	6			3.71	88	0.2	0.2	2011	Paved	8	Paved	8	1999
41+15	0.6	0	5			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
44+32	0.66	0	6			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
45+90	0.69	0	6			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
50+13	0.77	0	7			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
51+71	0.8	0	6			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
62+27	1	0	8			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
64+91	1.05	0	7			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
65+44	1.06	0	7			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
65+97	1.07	0	6			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
68+61	1.12	0	6			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
70+72	1.16	0	5			4.04	74	0.2	0.2	2011	Paved	8	Paved	8	1999
71+78	1.18	0	6			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
75+47	1.25	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
76+53	1.27	0	6			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
77+06	1.28	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
82+34	1.38	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
82+86	1.39	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
86+56	1.46	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
88+67	1.5	0	7			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
92+37	1.57	0	6			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
100+82	1.73	0	6			3.69	107	0.2	0.1	2011	Paved	8	Paved	8	1999
102+40	1.76	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
114+54	1.99	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
115+07	2	0	6			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
119+82	2.09	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999

Note: Dates provided for "Year Resurfaced" are provided from ARAN data and have not been verified.
GPR pavement thickness taken from outside wheel path, rounded to the nearest inch.

20272.00 Lebanon - Sanford															
Route 202															
		PERFORMANCE MEASURESUREMENTS								GENERAL PAVEMENT INFORMATION					
		Deficiencies	GPR	FWD Data		ARAN Performance Data				ARAN Supplemental Data					
Station	RLM	# Performance Deficiencies (0 - 6)	Pave Thck in	Existing SN < Future SN	Increased FWD Pavement Deflections	PCR ≤ 3.5	IRI ≥ 150	Wheel Path Rutting ≥ 0.5"		Inv Yr	Shoulder Type and Width				Yr. Resurf.
120+35	2.1	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
120+88	2.11	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
121+94	2.13	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
124+58	2.18	0	5			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
130+91	2.3	0	6			3.61	88	0.4	0.3	2011	Paved	8	Paved	8	1999
133+02	2.34	2	6			3.35	82	0.4	0.2	2011	Paved	8	Paved	8	1999
144+11	2.55	2	6			3.35	82	0.4	0.2	2011	Paved	8	Paved	8	1999
148+34	2.63	2	5			3.35	82	0.4	0.2	2011	Paved	10	Paved	8	1999
150+45	2.67	2	5			3.35	82	0.4	0.2	2011	Paved	8	Paved	8	1999
155+73	2.77	0	6			3.35	82	0.4	0.2	2011	Paved	8	Paved	8	1999
163+65	2.92	0	6			3.58	96	0.2	0.3	2011	Paved	8	Paved	8	1999
167+87	3	0	5			3.58	96	0.2	0.3	2011	Paved	8	Paved	8	1999
193+74	3.49	0	6			3.57	92	0.2	0.2	2011	Paved	8	Paved	8	1999
204+83	3.7	0	5			3.57	92	0.2	0.2	2011	Paved	8	Paved	8	1999
214+86	3.89	0	6			3.57	92	0.2	0.2	2011	Paved	8	Paved	8	1999
215+39	3.9	0	6			3.57	92	0.2	0.2	2011	Paved	8	Paved	8	1999
221+20	4.01	0	5			3.57	92	0.2	0.2	2011	Paved	8	Paved	8	1999
223+84	4.06	1	4			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
227+54	4.13	1	4			3.41	110	0.4	0.2	2011	Paved	10	Paved	10	1999
229+65	4.17	1	6			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
230+18	4.18	1	5			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
237+57	4.32	1	5			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
240+74	4.38	1	5			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
247+07	4.5	1	6			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
248+13	4.52	1	7			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
250+77	4.57	1	6			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
251+30	4.58	1	5			3.41	110	0.4	0.2	2011	Paved	8	Paved	8	1999
253+94	4.63	2	7			3.04	165	0.4	0.4	2011	Paved	8	Paved	8	1999
260+27	4.75	2	5			3.04	165	0.4	0.4	2011	Paved	8	Paved	8	1999
281+39	5.15	2	6			3.04	165	0.4	0.4	2011	Paved	8	Paved	8	1999
283+50	5.19	2	5			3.04	165	0.4	0.4	2011	Paved	8	Paved	8	1999
284+03	5.2	1	5			3.41	126	0.4	0.3	2011	Paved	8	Paved	8	1999
284+56	5.21	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	16	1999
286+67	5.25	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	16	1999
287+73	5.27	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	16	1999
288+26	5.28	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	16	1999
289+31	5.3	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	8	1999
297+76	5.46	1	5			3.41	126	0.4	0.3	2011	Paved	8	Paved	8	1999
299+34	5.49	1	5			3.41	126	0.4	0.3	2011	Paved	16	Paved	8	1999
302+51	5.55	1	5			3.41	126	0.4	0.3	2011	Paved	16	Paved	8	1999
303+04	5.56	1	6			3.41	126	0.4	0.3	2011	Paved	16	Paved	8	1999
304+62	5.59	1	5			3.41	126	0.4	0.3	2011	Paved	8	Paved	8	1999
313+07	5.75	1	6			3.41	126	0.4	0.3	2011	Paved	8	Paved	8	1999
314+13	5.77	0	8			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
316+77	5.82	0	5			3.58	105	0.3	0.2	2011	Paved	10	Paved	10	1999

Note: Dates provided for "Year Resurfaced" are provided from ARAN data and have not been verified.
GPR pavement thickness taken from outside wheel path, rounded to the nearest inch.

20272.00 Lebanon - Sanford															
Route 202															
		PERFORMANCE MEASURESUREMENTS								GENERAL PAVEMENT INFORMATION					
		Deficiencies	GPR	FWD Data		ARAN Performance Data				ARAN Supplemental Data					
Station	RLM	# Performance Deficiencies (0 - 6)	Pave Thck in	Existing SN < Future SN	Increased FWD Pavement Deflections	PCR ≤ 3.5	IRI ≥ 150	Wheel Path Rutting ≥ 0.5"		Inv Yr	Shoulder Type and Width				Yr. Resurf.
317+30	5.83	0	6			3.58	105	0.3	0.2	2011	Paved	10	Paved	10	1999
318+88	5.86	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
319+41	5.87	0	5			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
320+46	5.89	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
320+99	5.9	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
321+52	5.91	0	6			3.58	105	0.3	0.2	2011	Paved	10	Paved	8	1999
322+05	5.92	0	6			3.58	105	0.3	0.2	2011	Paved	10	Paved	10	1999
322+58	5.93	0	6			3.58	105	0.3	0.2	2011	Paved	10	Paved	10	1999
323+63	5.95	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	10	1999
324+16	5.96	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	10	1999
324+69	5.97	0	5			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
325+22	5.98	0	5			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
332+08	6.11	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
340+53	6.27	0	6			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
343+17	6.32	0	5			3.58	105	0.3	0.2	2011	Paved	8	Paved	8	1999
344+22	6.34	1	5			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
353+73	6.52	1	4			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
357+42	6.59	1	4			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
358+48	6.61	1	5			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
363+23	6.7	1	5			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
364+82	6.73	1	5			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
366+93	6.77	1	8			3.43	108	0.3	0.2	2011	Paved	8	Paved	8	1999
367+46	6.78	1	8			3.43	108	0.3	0.2	2011	Paved	2	Gravel	10	1999
367+98	6.79	1	6			3.43	108	0.3	0.2	2011	Paved	2	Gravel	10	1999
368+51	6.8	1	6			3.43	108	0.3	0.2	2011	Paved	2	Gravel	10	1999
369+57	6.82	1	7			3.43	108	0.3	0.2	2011	Paved	2	Gravel	10	1999
371+15	6.85	1	6			3.43	108	0.3	0.2	2011	Paved	2	Paved	8	1999
371+68	6.86	1	6			3.43	108	0.3	0.2	2011	Paved	2	Paved	10	1999
372+21	6.87	1	7			3.43	108	0.3	0.2	2011	Paved	2	Paved	10	1999
374+32	6.91	0	6			3.76	78	0.2	0.3	2011	Paved	2	Paved	10	1999
374+85	6.92	0	6			3.76	78	0.2	0.3	2011	Paved	2	Paved	10	1999
375+38	6.93	0	6			3.76	78	0.2	0.3	2011	Paved	2	Paved	12	1999
376+96	6.96	0	6			3.76	78	0.2	0.3	2011	Paved	12	Paved	12	1999
377+49	6.97	0	0			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
379+60	7.01	0	11			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
380+13	7.02	0	9			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
380+66	7.03	0	10			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
381+71	7.05	0	10			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
383+82	7.09	0	9			3.76	78	0.2	0.3	2011	Paved	10	Paved	10	1999
405+47	7.5	0	9			3.56	83	0.3	0.3	2011	Paved	10	Paved	10	1999
426+06	7.89	0	10			3.56	83	0.3	0.3	2011	Paved	10	Paved	10	1999
431+34	7.99	0	10			3.56	83	0.3	0.3	2011	Curb	10	Paved	12	1999
434+51	8.05	0	10			3.56	83	0.3	0.3	2011	Curb	10	Paved	12	1999
436+62	8.09	1	9			2.82	131	0.3	0.4	2011	Curb	10	Paved	10	1999
439+79	8.15	1	9			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999

Note: Dates provided for "Year Resurfaced" are provided from ARAN data and have not been verified.
GPR pavement thickness taken from outside wheel path, rounded to the nearest inch.

20272.00 Lebanon - Sanford															
Route 202															
		PERFORMANCE MEASURESUREMENTS								GENERAL PAVEMENT INFORMATION					
		Deficiencies	GPR	FWD Data		ARAN Performance Data				ARAN Supplemental Data					
Station	RLM	# Performance Deficiencies (0 - 6)	Pave Thck in	Existing SN < Future SN	Increased FWD Pavement Deflections	PCR ≤ 3.5	IRI ≥ 150	Wheel Path Rutting ≥ 0.5"		Inv Yr	Shoulder Type and Width				Yr. Resurf.
440+85	8.17	1	9			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
442+43	8.2	1	10			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
442+96	8.21	1	10			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
448+24	8.31	1	11			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
449+30	8.33	1	10			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
450+35	8.35	1	10			2.82	131	0.3	0.4	2011	Paved	10	Paved	10	1999
452+46	8.39	1	11			2.82	131	0.3	0.4	2011	Paved	8	Paved	8	1999
458+27	8.5	1	7			2.82	131	0.3	0.4	2011	Paved	8	Paved	8	1999
459+33	8.52	1	7			2.82	131	0.3	0.4	2011	Paved	8	Paved	8	1993
460+38	8.54	1	7			2.82	131	0.3	0.4	2011	Paved	8	Paved	8	1993
466+19	8.65	1	7			2.82	131	0.3	0.4	2011	Paved	8	Paved	8	1993
467+78	8.68	1	7			3.41	132	0.2	0.2	2011	Curb	4	Paved	8	1993
468+83	8.7	1	7			3.41	132	0.2	0.2	2011	Curb	4	Paved	8	1993
470+42	8.73	1	7			3.41	132	0.2	0.2	2011	Curb	4	Paved	8	1993
482+56	8.96	1	6			3.41	132	0.2	0.2	2011	Curb	4	Curb	8	1993
489+95	9.1	1	7			3.41	132	0.2	0.2	2011	Curb	4	Curb	8	1993
490+48	9.11	1	6			3.41	132	0.2	0.2	2011	Paved	4	Curb	8	1993
492+06	9.14	1	8			3.41	132	0.2	0.2	2011	Paved	4	Curb	8	1993
494+18	9.18	1	9			3.41	132	0.2	0.2	2011	Paved	4	Paved	8	1993
496+82	9.23	1	8			3.41	132	0.2	0.2	2011	Paved	4	Paved	8	1993
498+40	9.26	1	6			3.41	132	0.2	0.2	2011	Paved	4	Paved	8	1993
498+93	9.27	1	5			3.1	137	0.1	0.2	2011	Paved	4	Paved	8	1993
505+26	9.39	1	6			3.1	137	0.1	0.2	2011	Paved	4	Curb	8	1993
509+49	9.47	1	6			3.1	137	0.1	0.2	2011	Paved	4	Paved	8	1993
511+07	9.5	1	7			3.1	137	0.1	0.2	2011	Paved	4	Paved	8	1993
526+91	9.8	1	7			3.1	137	0.1	0.2	2011	Paved	4	Paved	4	1993
527+44	9.81	1	6			3.1	137	0.1	0.2	2011	Paved	4	Paved	4	1993
530+08	9.86	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
531+66	9.89	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
532+19	9.9	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
534+30	9.94	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
548+03	10.2	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
549+62	10.23	2	6			3.42	169	0	0.1	2011	Paved	4	Paved	4	1993
550+14	10.24	2	6			3.42	169	0	0.1	2011	Paved	4	Paved	8	1993
551+73	10.27	2	6			3.42	169	0	0.1	2011	Paved	4	Paved	8	1993
557+01	10.37	2	7			3.42	169	0	0.1	2011	Paved	4	Paved	8	1993
560+18	10.43	2	6			3.42	169	0	0.1	2011	Paved	4	Paved	8	1993
561+23	10.45	2	7			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
562+29	10.47	2	6			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
563+34	10.49	2	7			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
563+87	10.5	2	6			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
569+68	10.61	2	6			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
570+21	10.62	2	6			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
574+43	10.7	2	7			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
574+96	10.71	2	8			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993

Note: Dates provided for "Year Resurfaced" are provided from ARAN data and have not been verified.
GPR pavement thickness taken from outside wheel path, rounded to the nearest inch.

20272.00 Lebanon - Sanford

Route 202

		PERFORMANCE MEASURESUREMENTS								GENERAL PAVEMENT INFORMATION					
		Deficiencies	GPR	FWD Data		ARAN Performance Data				ARAN Supplemental Data					
Station	RLM	# Performance Deficiencies (0 - 6)	Pave Thck in	Existing SN < Future SN	Increased FWD Pavement Deflections	PCR ≤ 3.5	IRI ≥ 150	Wheel Path Rutting ≥ 0.5"		Inv Yr	Shoulder Type and Width				Yr. Resurf.
581+30	10.83	2	8			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
586+05	10.92	2	7			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
588+16	10.96	2	8			3.5	155	0.1	0.1	2011	Paved	4	Paved	8	1993
591+86	11.03	2	8			3.01	200	0.1	0.2	2011	Paved	4	Paved	8	1993
594+50	11.08	2	8			3.01	200	0.1	0.2	2011	Paved	4	Paved	8	1993
601+36	11.21	2	6			3.01	200	0.1	0.2	2011	Paved	4	Paved	8	1993
602+42	11.23	2	7			3.01	200	0.1	0.2	2011	Curb	8	Curb	4	1993
605+58	11.29	2	9			3.01	200	0.1	0.2	2011	Curb	8	Paved	4	1993
607+70	11.33	2	8			3.01	200	0.1	0.2	2011	Curb	8	Paved	4	1993
608+22	11.34	2	8			3.01	200	0.1	0.2	2011	Curb	8	Paved	4	1993
608+75	11.35	2	8			3.01	200	0.1	0.2	2011	Paved	8	Paved	4	1993
617+73	11.52	2	8			3.01	200	0.1	0.2	2011	Paved	8	Paved	4	2000
618+78	11.54	2	7			3.01	200	0.1	0.2	2011	Paved	8	Paved	4	2000
622+48	11.61	2	10			3.07	176	0.1	0.3	2011	Paved	8	Paved	4	2000
623+54	11.63	2	8			3.07	176	0.1	0.3	2011	Paved	8	Curb	4	2000
626+70	11.69	2	8			3.07	176	0.1	0.3	2011	Paved	8	Curb	4	2000
627+76	11.71	2	8			3.07	176	0.1	0.3	2011	Curb	6	Curb	4	2000
628+29	11.72	2	6			3.07	176	0.1	0.3	2011	Curb	6	Curb	4	2000
630+40	11.76	2	7			3.07	176	0.1	0.3	2011	Curb	6	Curb	4	2000
630+93	11.77	0	6			4.2	87	0.1	0.1	2011	Curb	6	Curb	4	2000
631+46	11.78	0	7			4.2	87	0.1	0.1	2011	Curb	6	Curb	4	2000
631+98	11.79	0	7			4.2	87	0.1	0.1	2011	Curb	8	Curb	8	2000
633+04	11.81	0	7			4.2	87	0.1	0.1	2011	Curb	8	Curb	8	2000
634+10	11.83	0	7			4.2	87	0.1	0.1	2011	Curb	8	Curb	8	2000
636+21	11.87	0	6			4.2	87	0.1	0.1	2011	Curb	8	Curb	8	2000
Average		**0.8**	**6.5**			**3.47**	**118**	**0.23**	**0.22**						

Note: Dates provided for "Year Resurfaced" are provided from ARAN data and have not been verified.
GPR pavement thickness taken from outside wheel path, rounded to the nearest inch.

Pavement Performance Assessment Summary Criteria Explanation

1. Existing Structural Number (SN) is less than the Future Structural Number (FWD Data) - If the existing SN is less than the future SN at any station along the project an X will be placed in the corresponding column and the box will be shaded.

2. Increased and/or Non Uniform FWD Deflections (FWD Data) – An X is placed in this column anytime the pavement deflection (1st sensor) is greater than 15 mils, anytime the 2nd sensor is greater than 10 mils, and anytime the deflections become non uniform.

3. IRI ≥ 150 (ARAN Data) – A complete listing of all ARAN IRI values collected for the project are listed on the PPAS in the IRI column. If the IRI value becomes greater than 150 (indicating a reduction in ride performance) for any station the box will be shaded on the PPAS. This information includes the complete data collection from the ARAN inventory for the project rather than just the node data points supplied in projex..

4. PCR ≤ 3.5 (ARAN Data) – A complete listing of all ARAN PCR values collected for the project are listed on the PPAS in the PCR column. If the PCR value becomes 3.5 or less (indicating increased pavement deterioration) for any station the box will be shaded on the PPAS. This information includes the complete data collection from the ARAN inventory for the project rather than just the node data points supplied in projex..

5 & 6. Left Rut Depth / Right Rut Depth (ARAN Data) – A complete listing of all left and right rut depth values collected along the project are listed on the PPAS in the rut depth columns. If the rut depth becomes 0.5" or greater the box will be shaded on the PPAS. This information includes the complete data collection from the ARAN inventory for the project rather than just the node data points supplied in projex..

Deficiency Column - The total number of deficient performance criteria (0 – 6) are totaled and placed in the deficient column (Def) for each station identified in the PPAS. If the total listed becomes 3 or greater the box will then be shaded. Existing and future pavement performance is likely to be reduced in areas exhibiting a greater number in the deficiency column. Additional reclamation measures may want to be considered in these poorly performing areas.

1" overlay & Hot in place recycle HMA

STATE OF MAINE

FILE: RTE 11

INTERDEPARTMENTAL MEMORANDUM

CC: RTE 202

Received: 1/28/2014

Date of Request: 3/12/2013

Return: 01/29/2014

Latest Date Needed By 1/10/2014

To: **Ed Hanscom** Dept.: MDOT, Bureau of Planning

From: **Clem Baxter/ LaRay Hamilton** Dept.: Project Development

Subject: **Request for Traffic Information** Project Manager: **Emory Lovely**

TOWN(S): Lebanon P.I.N. **20272.00** Consultant Proj

COUNTY: York ROUTE: Route 202, 0202X

LOCATION/ DESCRIPTION: Beginning at the New Hampshire state line and extending easterly on Route 202 for 11.79 miles to the intersection of Kimball Street.

	Roadway Changes or Relocation (Attach Sketch)	Turning Movement needed (Provide Locations under Comments)	Other Please Describe Under Comments
Please Check Box if Applicable:			

Prep By: MAM

	Sec. 1	Sec. 2	Sec. 3	Sec. 4	Sec. 5
Description of Sections	Lebanon - SR 11/US 202 S/O River Rd. @ NH State Line				
1 Latest AADT (Year)	11210(2006)				
2 Current **2014** AADT	11210				
3 Future **2026** AADT	12560				
4 Future AADT					
5 DHV - % of AADT	10%	%	%	%	%
6 Design Hourly Volume	1256				
7 % Heavy Trucks (AADT)	8%	%	%	%	%
8 % Heavy Trucks (DHV)	5%	%	%	%	%
9 Direct.Dist. (DHV)	57%	%	%	%	%
10 18-KIP Equivalent P 2.0	586				
11 18-KIP Equivalent P 2.5	558				

Notes or Remarks: 18-Kip ESALS is based on 12 year life

PLEASE PROVIDE: (1) PIN NUMBER, (2) THE CURRENT & FUTURE YEARS FOR WHICH YOU WANT AADT CALCULATED, AND SEND TO MIKE MORGAN. (A LOCATION MAP IS NO LONGER NEEDED.)
RAFFIC REQUESTS WILL BE FILLED ON A FIRST COME / SERVE BASIS. PLEASE SEND WHEN PROJECT KICKS OFF!
Need Only Data Items Numbered

Comments: Est 2014 AADTS vary from 6150 to 11210 for the project but heavy trucks remain fairly constant across the corridor.

February 4, 2014

Falling Weight Deflectometer (FWD)
Summary Sheet

Project #: 20272.00
Town(s): Lebanon-Sanford
Route(s): 11/202
Date Tested: 10/16/2013
Requested By: S. Hayden
Direction of Testing: East

Of FWD tests: 125 # Of Power Augers/Spoons 0
Design Life: 12 Future 18-kip P2.5 ESALs (Design Life): 2,444,040
Initial Serviceability: 4.5 Terminal Serviceability: 2.5
Reliability Level: 95 Overall Standard Deviation: .45

Locations

Station (Feet)	Description

Comments:

Pavement depths used for DARWin analysis were taken from Ground Penetrating Radar Summary Sheets – East Bound Lane.

Gravel depths used for the FWD data analysis (DARWin) were estimated at 24 inches, along the entire project.

20272.00 Lebanon-Sanford
Route # 11/202

February 4, 2014

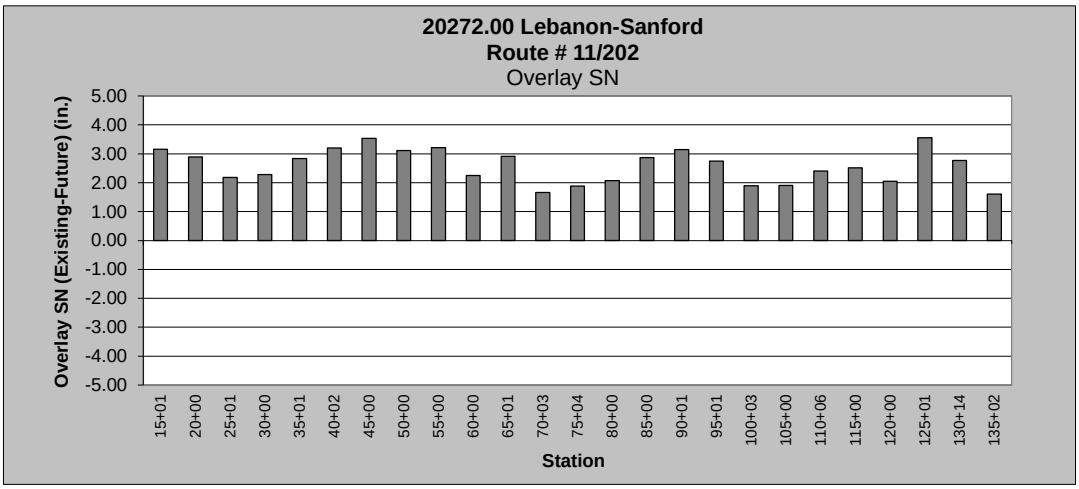
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	*Combined Pavement/Gravel Depth Used for Calculation (in)
15+01	6.87	3.71	3.16	-	142,875	9,960	5.2	29.2
20+00	6.88	3.99	2.89	-	149,720	8,076	4.8	28.8
25+01	6.83	4.65	2.18	-	137,799	5,101	5.4	29.4
30+00	6.85	4.57	2.28	-	136,254	5,379	5.6	29.6
35+01	7.18	4.35	2.83	-	153,565	6,258	5.8	29.8
40+02	7.28	4.08	3.20	-	156,641	7,554	6.3	30.0
45+00	7.18	3.65	3.53	-	150,435	**10,416**	6.3	30.0
50+00	6.72	3.61	3.11	-	123,219	**10,734**	6.3	30.0
55+00	7.52	4.31	3.21	-	172,792	6,416	6.6	30.0
60+00	6.48	4.23	2.25	-	110,599	6,796	7.0	30.0
65+01	6.59	3.68	2.91	-	116,264	**10,144**	6.6	30.0
70+03	5.93	4.27	1.66	-	84,922	6,603	6.6	30.0
75+04	6.30	4.42	1.88	-	101,536	5,936	6.7	30.0
80+00	6.21	4.14	2.07	-	97,339	7,207	6.5	30.0
85+00	7.17	4.30	2.87	-	149,861	6,470	7.9	30.0
90+01	6.98	3.84	3.14	-	142,402	9,030	5.7	29.7
95+01	7.03	4.28	2.75	-	141,106	6,551	6.0	30.0
100+03	6.33	4.44	1.89	-	110,401	5,879	5.3	29.3
105+00	6.24	4.33	1.91	-	99,725	6,324	5.9	29.9
110+06	6.50	4.10	2.40	-	122,166	7,443	5.1	29.1
115+00	6.65	4.14	2.51	-	127,241	7,250	5.4	29.4
120+00	6.46	4.41	2.05	-	118,823	5,990	5.2	29.2
125+01	7.07	3.52	3.55	-	158,730	**11,498**	5.0	29.0
130+14	6.86	4.09	2.77	-	131,451	7,494	6.6	30.0
135+02	6.37	4.76	1.61	-	109,372	4,748	5.6	29.6

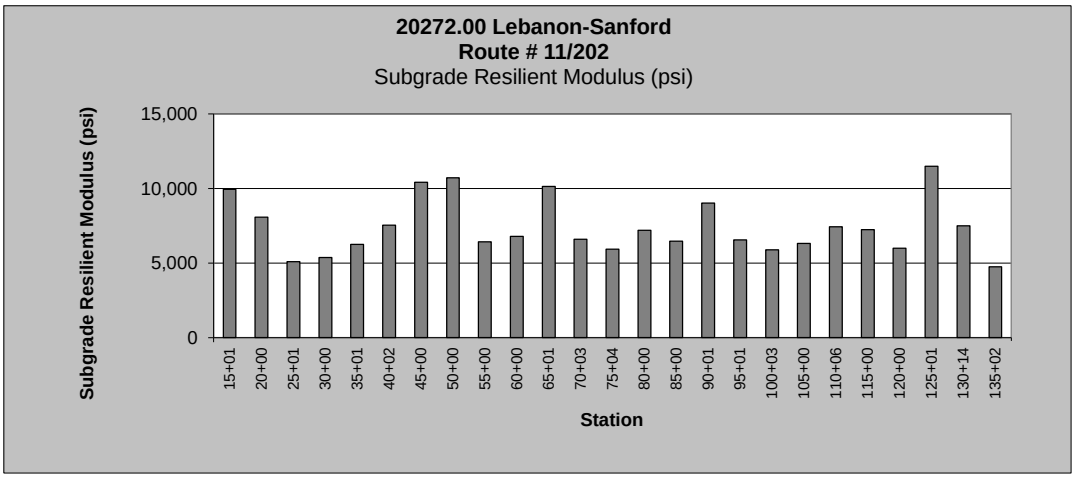
Possible Weak Soils (<3000)

Possible Shallow Bedrock (>10000)

Pavement depths were taken from Ground Penetrating Radar Summary Sheet - East Bound Lane/Outer Wheelpath.

*** Gravel Depths were estimated at 24 inches**





20272.00 Lebanon-Sanford
Route # 11/202

February 4, 2014

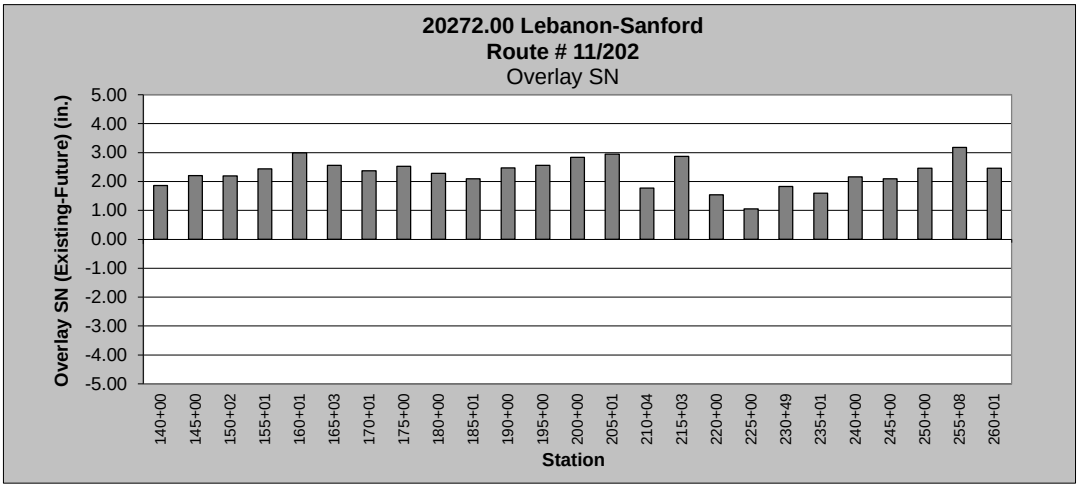
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	*Combined Pavement/Gravel Depth Used for Calculation (in)
140+00	6.12	4.26	1.86	-	103,220	6,627	5.0	29.0
145+00	6.51	4.31	2.20	-	112,052	6,422	6.1	30.0
150+02	6.35	4.16	2.19	-	115,287	7,144	5.0	29.0
155+01	6.65	4.21	2.44	-	121,862	6,862	5.8	29.8
160+01	6.83	3.84	2.99	-	137,291	9,015	5.4	29.4
165+03	6.78	4.22	2.56	-	130,700	6,834	5.7	29.7
170+01	6.59	4.22	2.37	-	127,203	6,844	5.1	29.1
175+00	6.87	4.35	2.52	-	142,884	6,231	5.2	29.2
180+00	6.40	4.12	2.28	-	106,767	7,360	6.5	30.0
185+01	6.59	4.50	2.09	-	128,983	5,642	5.0	29.0
190+00	6.69	4.22	2.47	-	122,848	6,851	5.9	29.9
195+00	6.63	4.07	2.56	-	123,299	7,576	5.6	29.6
200+00	6.96	4.12	2.84	-	151,862	7,316	5.0	29.0
205+01	6.45	3.50	2.95	-	123,026	**11,749**	4.8	28.8
210+04	5.82	4.05	1.77	-	88,779	7,739	5.0	29.0
215+03	7.18	4.31	2.87	-	155,303	6,434	5.7	29.7
220+00	6.07	4.53	1.54	-	108,061	5,520	4.3	28.3
225+00	5.80	4.75	1.05	-	89,762	4,791	4.8	28.8
230+49	6.31	4.48	1.83	-	106,239	5,727	5.6	29.6
235+01	6.23	4.64	1.59	-	104,400	5,140	5.4	29.4
240+00	6.35	4.19	2.16	-	109,512	6,980	5.5	29.5
245+00	6.43	4.34	2.09	-	127,592	6,300	4.4	28.4
250+00	6.72	4.26	2.46	-	129,472	6,638	5.5	29.5
255+08	7.17	3.99	3.18	-	151,160	8,068	5.9	29.9
260+01	6.63	4.17	2.46	-	132,382	7,057	4.9	28.9

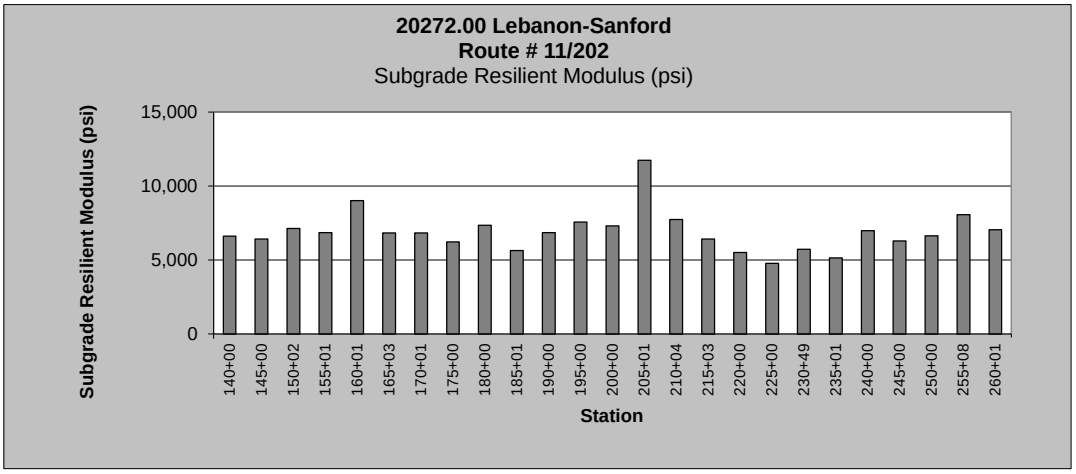
Possible Weak Soils (<3000)

Possible Shallow Bedrock (>10000)

Pavement depths were taken from Ground Penetrating Radar Summary Sheet - East Bound Lane/Outer Wheelpath.

*** Gravel Depths were estimated at 24 inches**





20272.00 Lebanon-Sanford
Route # 11/202

February 4, 2014

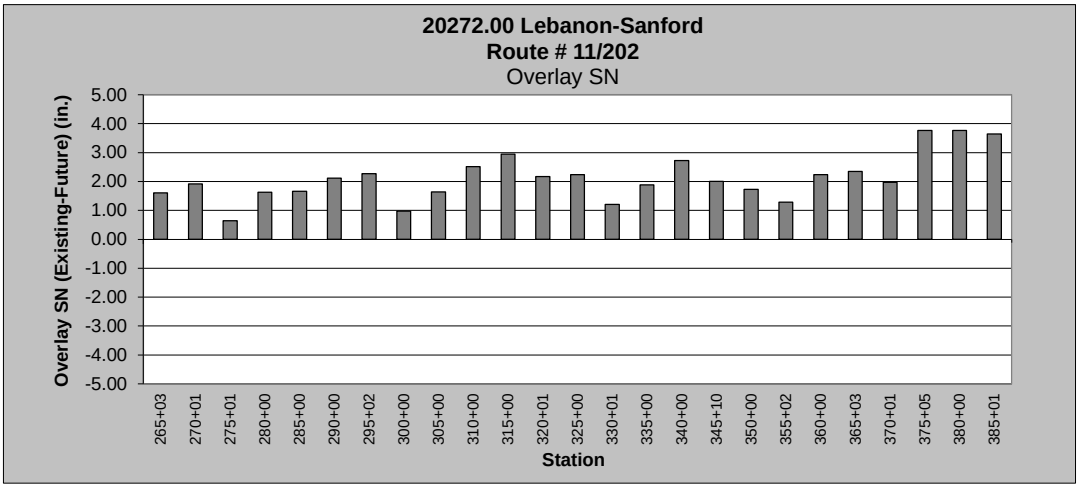
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	*Combined Pavement/Gravel Depth Used for Calculation (in)
265+03	6.00	4.39	1.61	-	107,725	6,062	4.0	30.0
270+01	6.51	4.59	1.92	-	119,221	5,325	5.4	30.0
275+01	5.50	4.86	0.64	-	76,441	4,460	4.8	30.0
280+00	6.07	4.44	1.63	-	96,414	5,874	5.4	30.0
285+00	6.15	4.49	1.66	-	98,254	5,695	5.6	30.0
290+00	6.54	4.42	2.12	-	116,962	5,944	5.7	30.0
295+02	7.10	4.83	2.27	-	145,430	4,527	6.6	30.0
300+00	5.97	5.00	0.97	-	101,727	4,077	4.4	30.0
305+00	6.25	4.61	1.64	-	103,502	5,229	5.6	30.0
310+00	6.83	4.32	2.51	-	129,466	6,392	6.4	30.0
315+00	7.29	4.34	2.95	-	167,036	6,280	5.4	30.0
320+01	6.38	4.21	2.17	-	115,867	6,883	5.1	30.0
325+00	6.21	3.97	2.24	-	106,637	8,155	5.1	30.0
330+01	5.70	4.49	1.21	-	75,196	5,689	6.5	30.0
335+00	6.21	4.33	1.88	-	106,674	6,343	5.1	30.0
340+00	6.51	3.79	2.72	-	115,496	9,339	5.7	30.0
345+10	6.33	4.32	2.01	-	117,882	6,394	4.7	30.0
350+00	5.99	4.26	1.73	-	96,549	6,666	5.0	30.0
355+02	5.73	4.44	1.29	-	87,282	5,870	4.7	30.0
360+00	6.23	3.99	2.24	-	116,913	8,047	4.3	30.0
365+03	6.49	4.14	2.35	-	129,729	7,217	4.5	30.0
370+01	6.38	4.41	1.97	-	105,308	5,988	6.1	30.0
375+05	7.81	4.05	3.76	-	195,364	7,730	5.9	30.0
380+00	7.73	3.97	3.76	-	188,045	8,172	9.6	30.0
385+01	7.34	3.70	3.64	-	160,673	9,992	9.4	30.0

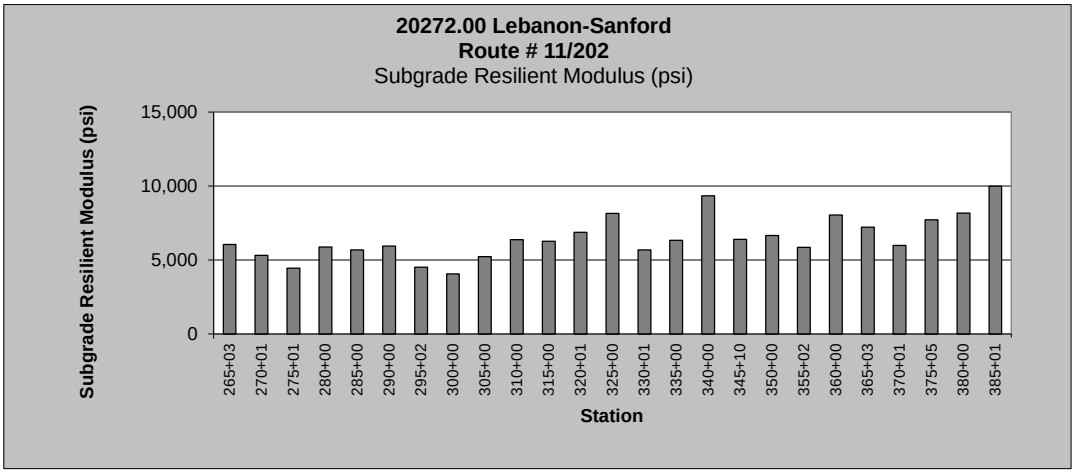
Possible Weak Soils (<3000)

Possible Shallow Bedrock (>10000)

Pavement depths were taken from Ground Penetrating Radar Summary Sheet - East Bound Lane/Outer Wheelpath.

*** Gravel Depths were estimated at 24 inches**





20272.00 Lebanon-Sanford
Route # 11/202

February 4, 2014

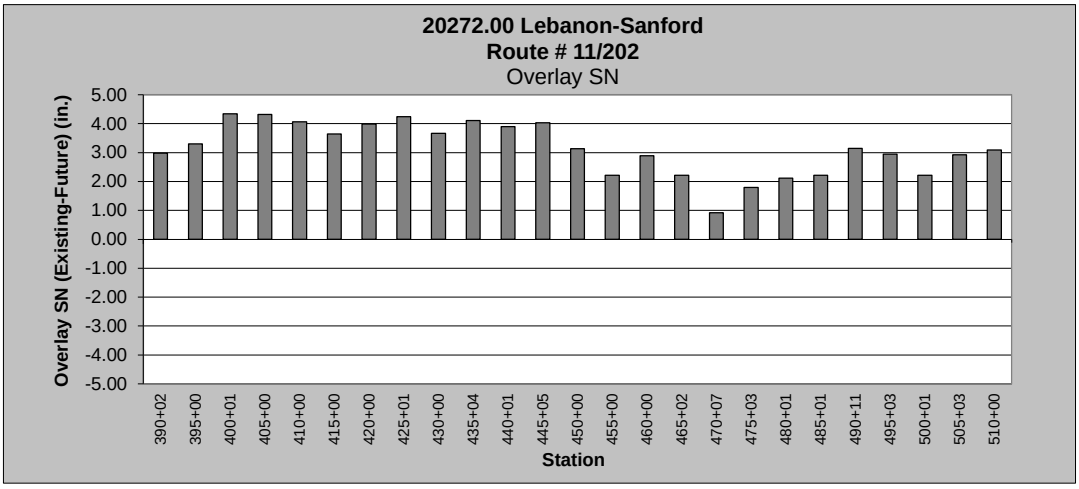
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	*Combined Pavement/Gravel Depth Used for Calculation (in)
390+02	7.03	4.05	2.98	-	141,259	7,740	9.9	30.0
395+00	7.68	4.38	3.30	-	183,879	6,099	9.7	30.0
400+01	7.86	3.52	4.34	-	197,278	**11,565**	9.6	30.0
405+00	8.03	3.71	4.32	-	210,423	9,966	8.8	30.0
410+00	7.71	3.65	4.06	-	185,998	**10,413**	9.1	30.0
415+00	6.98	3.34	3.64	-	138,339	**13,293**	8.7	30.0
420+00	7.56	3.57	3.99	-	175,570	**11,097**	8.6	30.0
425+01	7.74	3.50	4.24	-	188,819	**11,737**	9.9	30.0
430+00	7.62	3.95	3.67	-	179,872	8,316	9.4	30.0
435+04	7.79	3.68	4.11	-	192,361	**10,174**	9.2	30.0
440+01	7.63	3.73	3.90	-	180,591	9,795	9.8	30.0
445+05	7.79	3.76	4.03	-	192,271	9,531	10.2	30.0
450+00	6.84	3.71	3.13	-	130,050	9,934	9.7	30.0
455+00	6.24	4.03	2.21	-	98,715	7,829	9.3	30.0
460+00	6.60	3.71	2.89	-	116,810	9,915	7.1	30.0
465+02	6.21	3.99	2.22	-	97,508	8,057	6.4	30.0
470+07	5.43	4.51	0.92	-	65,001	5,610	6.9	30.0
475+03	5.90	4.11	1.79	-	83,290	7,379	6.5	30.0
480+01	6.19	4.08	2.11	-	96,408	7,543	6.8	30.0
485+01	6.33	4.12	2.21	-	102,982	7,314	6.5	30.0
490+11	6.80	3.66	3.14	-	127,887	**10,350**	6.8	30.0
495+03	6.86	3.91	2.95	-	131,210	8,570	8.4	30.0
500+01	6.17	3.96	2.21	-	95,379	8,240	6.0	30.0
505+03	6.54	3.62	2.92	-	113,650	**10,656**	6.0	30.0
510+00	6.70	3.61	3.09	-	122,206	**10,696**	6.1	30.0

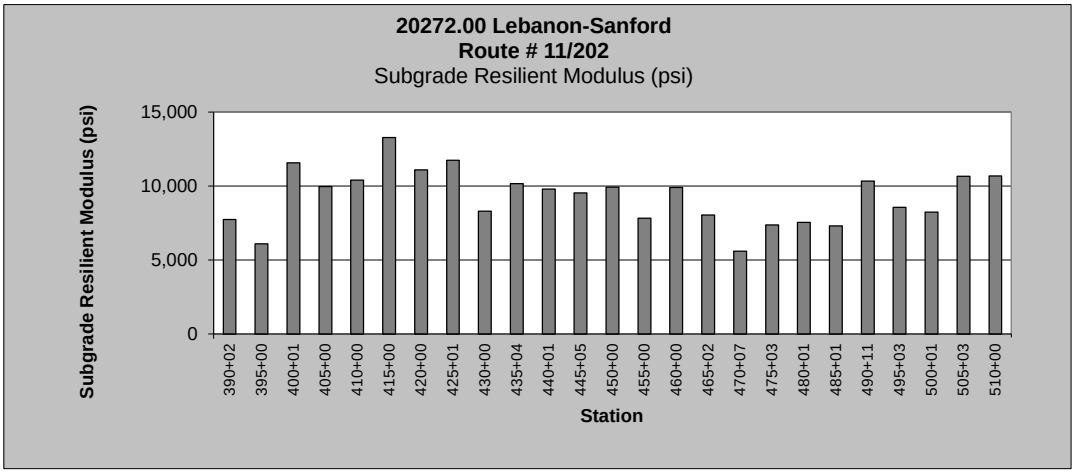
Possible Weak Soils (<3000)

Possible Shallow Bedrock (>10000)

Pavement depths were taken from Ground Penetrating Radar Summary Sheet - East Bound Lane/Outer Wheelpath.

*** Gravel Depths were estimated at 24 inches**





20272.00 Lebanon-Sanford
Route # 11/202

February 4, 2014

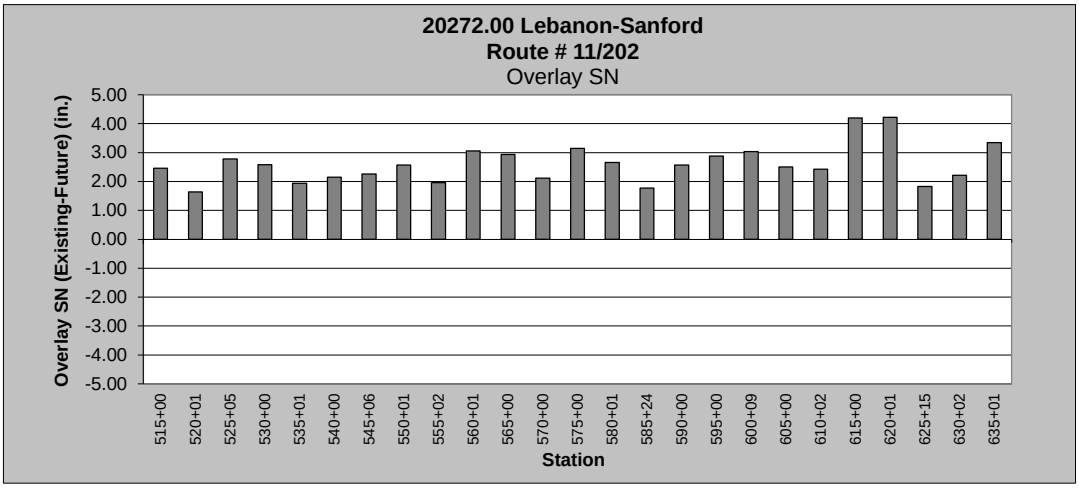
Station (Feet)	Existing Structural Number (in.)	Future Traffic Structural Number (in.)	Overlay Structural Number (Existing - Future)	Recommended Pavement Thickness (in.)	Pavement Modulus (psi)	Subgrade Resilient Modulus (psi)	Pavement Depth (in)	*Combined Pavement/Gravel Depth Used for Calculation (in)
515+00	6.40	3.94	2.46	-	106,339	8,357	6.9	30.0
520+01	5.92	4.28	1.64	-	84,386	6,453	6.2	30.0
525+05	7.06	4.28	2.78	-	143,269	6,575	8.0	30.0
530+00	6.53	3.95	2.58	-	113,161	8,322	6.9	30.0
535+01	6.06	4.12	1.94	-	90,315	7,309	6.8	30.0
540+00	6.20	4.05	2.15	-	96,760	7,716	6.9	30.0
545+06	6.05	3.79	2.26	-	90,216	9,322	6.3	30.0
550+01	6.04	3.47	2.57	-	89,729	**11,973**	6.5	30.0
555+02	5.96	4.00	1.96	-	85,854	7,988	6.3	30.0
560+01	6.70	3.64	3.06	-	122,491	**10,469**	6.8	30.0
565+00	6.77	3.83	2.94	-	126,081	9,073	6.5	30.0
570+00	6.34	4.23	2.11	-	103,512	6,776	6.0	30.0
575+00	6.60	3.46	3.14	-	117,075	**12,054**	7.3	30.0
580+01	6.47	3.81	2.66	-	110,149	9,215	8.0	30.0
585+24	6.02	4.25	1.77	-	88,780	6,693	7.2	30.0
590+00	6.47	3.90	2.57	-	109,907	8,637	7.9	30.0
595+00	6.48	3.60	2.88	-	110,836	**10,822**	7.7	30.0
600+09	6.62	3.59	3.03	-	117,743	**10,866**	6.8	30.0
605+00	6.41	3.91	2.50	-	106,904	8,572	7.9	30.0
610+02	6.39	3.96	2.43	-	106,286	8,212	7.5	30.0
615+00	7.51	3.31	4.20	-	172,308	**13,703**	7.6	30.0
620+01	7.72	3.50	4.22	-	186,856	**11,695**	7.3	30.0
625+15	6.03	4.20	1.83	-	88,979	6,924	7.3	30.0
630+02	6.41	4.20	2.21	-	106,839	6,546	6.3	30.0
635+01	7.37	4.03	3.34	-	162,935	7,836	7.4	30.0

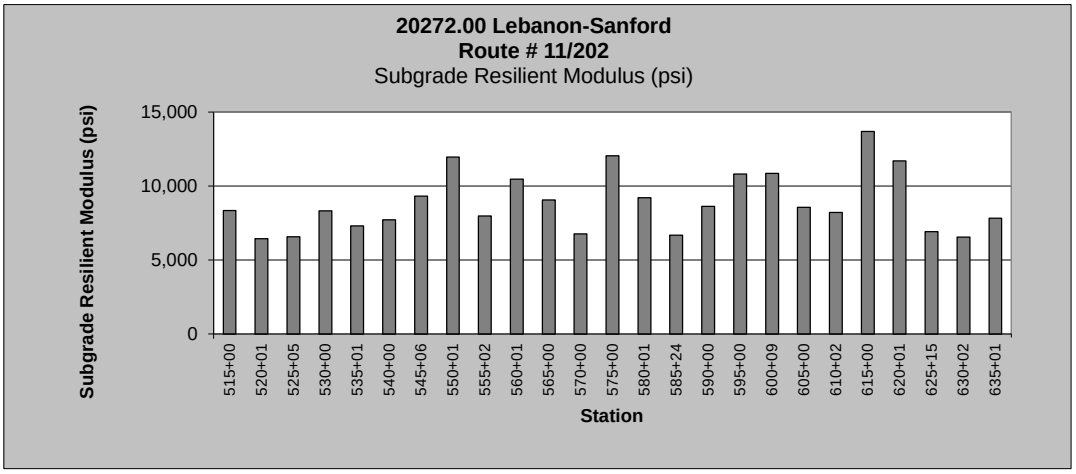
Possible Weak Soils (<3000)

Possible Shallow Bedrock (>10000)

Pavement depths were taken from Ground Penetrating Radar Summary Sheet - East Bound Lane/Outer Wheelpath.

*** Gravel Depths were estimated at 24 inches**





State of Maine - Maine Department of Transportation

Pavement Core Summary Sheet

Town(s): Lebanon-Sanford Work Number: 20272.00

Station (Feet)	Offset (Feet)	Pavement Depth (Inches)	Unbound Pavement	PC-Number	Saved Core	Comments / Date 11/14/2013
50+00	13.0 Rt.	1.75		1		Shoulder
50+00	9.0 Rt.	6.5		2		Approx 2.5" Macadam
50+00	9.0 Lt.	7.25		3		Macadam Present
140+00	9.0 Rt.	6.5		4		Macadam Present
140+00	9.0 Lt.	7.0		5		
140+00	13.0 Lt.	2.0		6		Shoulder
240+00	13.0 Rt.	3.5		7		Shoulder
240+00	9.0 Rt.	6.25		8		Macadam Present
320+00	9.0 Rt.	7.25		9		Macadam Present
320+00	9.0 Lt.	5.5		10		Macadam Present
320+00	13.0 Lt.	2.0		11		Shoulder
374+00	13.0 Rt.	3.0		12		Shoulder
374+00	11.0 Rt.	6.5		13		
374+00	6.0 Rt.	10.5		14		trench
374+00	9.0 Lt.	6.5		15		
420+00	9.0 Lt.	9.25		16		
420+00	13.0 Lt.	4.25		17		Shoulder
540+00	13.0 Rt.	3.0		18		Shoulder
540+00	9.0 Rt.	6.25		19		
540+00	9.0 Lt.	6.75		20		
540+00	21.0 Lt.	6.5		21		Truck Lane
600+00	13.0 Rt.	2.5		22		Shoulder
600+00	9.0 Rt.	7.5		23		

Logged By: S. Colson

4" Thinwall Core

MaineDOT

Ground Penetrating Radar (GPR)
Estimated Pavement Thickness
020272.00 - Lebanon, Sanford

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected at the inner and outer wheel path of the lane at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems, Inc. (GSSI) RADAN7 GPR data processing software. Where available, pavement thickness values from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

Data Confidence Level:

Very Good - Reflection layers appear strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments
Macadam present between Stations 10+00 - 70+00 and 83+00 - 370+00. Measurements in these areas are pavement depth to top of Macadam.

Project Manager	Reported By	Test Date	Reported Date
LOVELY, EMORY D	**VOSE, RYAN K**	**11/4/2013**	**2/4/2014**

Lane Tested	Route	PMS Route Code	Analysis Distance, ft.
EASTBOUND LANE	**11/202**		**50**

Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
6.4	**4**	**10.8**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
10+50	3.8	4.1	11+00	4.7	5.0	11+50	4.9	4.5	12+00	4.9	4.0
12+50	4.9	5.2	13+00	5.7	6.0	13+50	5.5	5.2	14+00	5.5	5.1
14+50	5.2	5.4	15+00	5.6	5.5	15+50	5.5	5.2	16+00	5.9	6.1
16+50	5.8	6.1	17+00	6.2	6.7	17+50	5.1	5.7	18+00	4.4	4.5
18+50	4.6	4.4	19+00	5.3	4.7	19+50	5.5	4.5	20+00	5.2	4.8
20+50	5.5	5.6	21+00	4.9	4.8	21+50	5.4	5.0	22+00	5.4	5.3
22+50	5.5	5.7	23+00	5.6	5.7	23+50	5.6	5.6	24+00	5.4	5.3
24+50	5.4	5.2	25+00	5.7	5.6	25+50	5.2	5.4	26+00	5.4	6.1
26+50	5.4	5.9	27+00	5.3	5.9	27+50	5.7	6.3	28+00	5.5	6.0
28+50	5.4	5.6	29+00	5.4	5.6	29+50	5.1	5.2	30+00	5.2	5.6
30+50	5.6	6.7	31+00	5.7	6.5	31+50	5.6	6.5	32+00	5.8	6.5
32+50	5.8	6.2	33+00	5.8	6.5	33+50	5.6	6.5	34+00	5.4	6.0
34+50	5.3	5.7	35+00	5.4	5.8	35+50	5.6	5.9	36+00	5.6	6.1

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
36+50	5.5	5.7	37+00	5.4	5.6	37+50	5.0	5.2	38+00	5.9	6.3
38+50	6.1	6.6	39+00	6.0	6.4	39+50	5.9	6.2	40+00	6.0	6.6
40+50	6.0	6.3	41+00	5.5	6.1	41+50	5.1	5.4	42+00	5.1	5.4
42+50	5.4	5.8	43+00	5.3	5.7	43+50	5.2	5.6	44+00	5.2	5.9
44+50	5.1	5.7	45+00	5.2	6.3	45+50	5.6	7.0	46+00	5.6	6.6
46+50	5.6	7.1	47+00	5.9	7.2	47+50	6.6	6.6	48+00	5.8	7.0
48+50	5.6	6.7	49+00	5.5	6.4	49+50	5.6	6.7	50+00	5.7	6.4
50+50	5.5	6.3	51+00	5.5	6.1	51+50	5.6	6.0	52+00	5.7	6.2
52+50	5.8	6.1	53+00	5.8	6.2	53+50	5.7	6.3	54+00	5.6	6.2
54+50	5.6	6.0	55+00	6.0	6.6	55+50	5.7	6.6	56+00	6.0	6.6
56+50	6.3	6.0	57+00	5.6	5.9	57+50	5.7	6.0	58+00	6.4	6.6
58+50	6.2	6.7	59+00	6.2	6.7	59+50	6.2	6.7	60+00	6.2	7.1
60+50	6.1	7.0	61+00	5.8	7.0	61+50	5.8	7.1	62+00	6.4	7.6
62+50	6.5	7.8	63+00	6.6	7.8	63+50	6.7	7.2	64+00	6.3	6.7
64+50	6.6	6.6	65+00	6.6	7.1	65+50	6.3	6.6	66+00	5.7	6.6
66+50	5.2	6.1	67+00	5.7	6.4	67+50	6.0	6.5	68+00	5.4	6.6
68+50	5.3	6.2	69+00	5.3	6.0	69+50	5.1	5.6	70+00	5.5	6.6
70+50	6.2	6.6	71+00	5.5	5.9	71+50	6.0	6.5	72+00	5.9	6.2
72+50	5.9	5.8	73+00	5.4	5.5	73+50	5.7	5.6	74+00	5.9	6.0
74+50	5.8	6.3	75+00	6.3	6.6	75+50	6.5	6.7	76+00	6.6	6.7
76+50	6.7	6.6	77+00	6.6	6.1	77+50	6.4	6.6	78+00	6.8	6.6
78+50	6.8	6.6	79+00	6.8	6.7	79+50	7.4	7.0	80+00	7.1	6.9
80+50	6.6	6.5	81+00	6.3	6.4	81+50	6.4	6.3	82+00	6.4	6.4
82+50	6.5	6.5	83+00	6.8	7.0	83+50	6.4	7.7	84+00	6.1	7.8
84+50	6.4	8.1	85+00	6.8	8.3	85+50	6.6	7.9	86+00	6.4	7.4
86+50	6.1	7.1	87+00	6.1	6.9	87+50	5.7	6.5	88+00	5.6	6.1
88+50	5.7	6.5	89+00	5.7	6.5	89+50	5.5	6.0	90+00	5.4	5.7
90+50	5.9	6.1	91+00	6.2	6.4	91+50	5.9	6.4	92+00	5.9	6.1
92+50	6.0	6.5	93+00	6.2	6.5	93+50	5.6	6.3	94+00	6.2	6.4
94+50	5.8	5.9	95+00	6.0	6.0	95+50	5.8	6.8	96+00	5.5	6.0
96+50	5.3	5.7	97+00	5.2	5.8	97+50	4.8	5.5	98+00	4.8	5.3
98+50	5.1	5.6	99+00	5.2	5.7	99+50	5.0	5.6	100+00	5.1	5.4
100+50	5.1	5.3	101+00	4.9	5.5	101+50	5.0	5.6	102+00	4.8	5.2
102+50	5.1	5.2	103+00	5.1	5.7	103+50	5.2	5.8	104+00	5.3	5.9
104+50	5.1	5.9	105+00	5.3	5.9	105+50	5.4	5.9	106+00	5.4	5.7
106+50	5.3	5.5	107+00	5.2	5.6	107+50	4.8	5.0	108+00	4.8	4.9
108+50	5.2	5.1	109+00	5.5	5.2	109+50	4.9	5.2	110+00	5.0	5.1
110+50	5.1	5.3	111+00	5.1	5.4	111+50	5.8	5.5	112+00	4.9	5.2
112+50	4.7	5.1	113+00	5.1	5.2	113+50	5.4	5.3	114+00	5.0	5.0
114+50	5.2	5.0	115+00	5.4	5.4	115+50	5.7	5.8	116+00	5.4	5.7
116+50	5.1	5.3	117+00	5.6	5.6	117+50	5.2	5.1	118+00	5.3	5.5
118+50	5.0	5.3	119+00	4.9	5.1	119+50	5.2	5.3	120+00	5.2	5.5
120+50	4.8	5.0	121+00	4.8	5.0	121+50	5.1	5.3	122+00	4.9	5.3
122+50	4.9	5.2	123+00	5.8	5.7	123+50	4.9	5.3	124+00	4.9	5.3

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
124+50	4.9	5.4	125+00	4.8	5.0	125+50	4.7	5.0	126+00	4.6	4.9
126+50	4.9	5.0	127+00	5.7	5.9	127+50	5.4	6.2	128+00	5.4	6.0
128+50	5.9	5.9	129+00	5.6	6.3	129+50	5.2	6.2	130+00	5.1	6.8
130+50	5.9	6.6	131+00	5.8	6.1	131+50	4.7	5.7	132+00	4.9	5.9
132+50	5.3	6.2	133+00	5.3	6.1	133+50	5.4	5.9	134+00	5.4	6.2
134+50	5.2	5.9	135+00	5.0	5.6	135+50	5.2	5.8	136+00	5.4	6.0
136+50	5.2	5.8	137+00	5.5	5.9	137+50	4.8	5.3	138+00	4.9	5.3
138+50	5.1	5.3	139+00	5.7	5.4	139+50	4.4	4.8	140+00	4.6	5.3
140+50	4.7	5.0	141+00	4.7	5.2	141+50	4.6	5.4	142+00	4.5	5.2
142+50	4.5	5.4	143+00	4.7	5.6	143+50	4.8	5.5	144+00	5.5	5.8
144+50	5.5	6.2	145+00	6.1	7.0	145+50	5.3	6.1	146+00	4.7	5.5
146+50	4.8	5.7	147+00	4.6	5.5	147+50	4.7	5.5	148+00	4.8	5.7
148+50	4.7	5.5	149+00	4.5	5.4	149+50	4.6	5.4	150+00	4.9	5.6
150+50	4.3	5.0	151+00	4.5	5.4	151+50	4.8	5.1	152+00	5.2	5.2
152+50	5.1	5.4	153+00	5.4	5.5	153+50	5.2	5.5	154+00	5.3	5.7
154+50	5.1	5.5	155+00	5.1	6.0	155+50	5.0	5.8	156+00	5.0	5.7
156+50	5.1	5.8	157+00	5.0	5.7	157+50	5.1	5.8	158+00	5.2	5.8
158+50	5.4	5.8	159+00	5.0	5.6	159+50	5.0	5.5	160+00	5.0	5.7
160+50	5.2	5.4	161+00	5.6	5.2	161+50	5.2	5.1	162+00	4.4	4.6
162+50	4.6	5.0	163+00	5.5	5.6	163+50	5.5	6.0	164+00	5.1	6.0
164+50	5.3	5.7	165+00	5.6	6.0	165+50	5.0	5.7	166+00	5.3	6.1
166+50	5.4	6.3	167+00	5.3	5.9	167+50	5.0	5.4	168+00	5.6	5.4
168+50	5.3	5.4	169+00	4.9	5.5	169+50	4.9	5.5	170+00	4.8	5.1
170+50	5.6	5.5	171+00	5.5	5.9	171+50	5.8	6.3	172+00	5.1	5.6
172+50	4.6	5.2	173+00	5.0	4.8	173+50	4.9	4.7	174+00	5.0	5.0
174+50	5.1	5.2	175+00	4.9	5.2	175+50	5.4	5.6	176+00	5.4	5.7
176+50	5.7	5.9	177+00	5.4	5.7	177+50	5.4	5.9	178+00	5.6	6.1
178+50	5.7	6.7	179+00	5.6	6.5	179+50	5.2	6.2	180+00	5.0	6.5
180+50	5.4	6.6	181+00	5.1	6.6	181+50	5.1	6.1	182+00	5.0	5.6
182+50	5.3	5.9	183+00	4.8	5.9	183+50	4.6	5.6	184+00	4.9	5.6
184+50	4.7	5.0	185+00	5.0	5.0	185+50	4.7	5.1	186+00	5.6	5.7
186+50	5.2	5.5	187+00	5.2	5.2	187+50	5.5	5.7	188+00	5.4	6.0
188+50	5.3	5.9	189+00	5.3	6.0	189+50	5.2	6.0	190+00	4.8	6.1
190+50	5.0	5.9	191+00	5.1	6.8	191+50	5.3	6.8	192+00	4.9	5.9
192+50	5.1	5.7	193+00	5.1	5.9	193+50	5.1	6.1	194+00	4.8	5.9
194+50	4.7	5.5	195+00	5.2	5.6	195+50	5.8	6.1	196+00	6.0	6.4
196+50	6.0	6.8	197+00	5.9	6.3	197+50	5.4	5.6	198+00	5.1	5.1
198+50	5.7	5.6	199+00	5.2	5.4	199+50	5.3	5.6	200+00	5.0	5.2
200+50	5.2	5.0	201+00	5.1	5.0	201+50	4.9	5.5	202+00	5.0	5.2
202+50	5.0	5.1	203+00	5.0	5.4	203+50	4.9	5.2	204+00	4.9	5.1
204+50	4.8	4.9	205+00	4.9	4.8	205+50	4.8	5.2	206+00	4.6	4.6
206+50	4.6	4.7	207+00	4.7	4.9	207+50	4.5	4.6	208+00	4.2	4.2
208+50	4.4	4.2	209+00	5.0	4.7	209+50	4.8	4.7	210+00	4.5	4.5
210+50	5.1	5.0	211+00	5.2	5.1	211+50	4.8	5.1	212+00	4.7	5.1

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
212+50	4.6	4.5	213+00	4.7	4.4	213+50	4.4	4.5	214+00	4.4	4.6
214+50	5.1	5.3	215+00	5.4	5.7	215+50	5.0	5.7	216+00	4.8	5.3
216+50	4.8	5.1	217+00	5.2	5.3	217+50	5.4	5.8	218+00	5.6	6.2
218+50	5.4	5.4	219+00	5.3	5.1	219+50	5.1	5.0	220+00	4.7	4.8
220+50	4.4	4.3	221+00	4.4	4.1	221+50	4.9	4.9	222+00	5.3	5.4
222+50	5.3	5.4	223+00	5.2	5.4	223+50	4.9	4.6	224+00	4.3	4.1
224+50	4.4	4.3	225+00	5.0	4.8	225+50	4.0	4.9	226+00	4.4	4.6
226+50	4.3	5.0	227+00	4.4	4.8	227+50	4.6	4.7	228+00	5.2	4.9
228+50	5.5	5.9	229+00	5.9	6.2	229+50	5.7	5.9	230+00	5.5	6.0
230+50	5.3	5.6	231+00	5.2	5.9	231+50	5.3	5.6	232+00	5.6	5.8
232+50	5.7	6.4	233+00	5.7	6.0	233+50	5.3	5.6	234+00	5.7	5.8
234+50	5.5	6.0	235+00	5.2	5.4	235+50	5.2	5.6	236+00	5.1	5.2
236+50	5.5	5.1	237+00	5.5	5.1	237+50	5.5	5.6	238+00	5.3	5.1
238+50	4.9	5.0	239+00	5.2	5.3	239+50	5.2	5.1	240+00	5.2	5.5
240+50	5.0	5.7	241+00	5.2	5.5	241+50	5.2	5.1	242+00	5.1	5.6
242+50	5.5	6.1	243+00	5.0	5.8	243+50	4.6	5.0	244+00	4.7	4.5
244+50	4.9	4.8	245+00	4.4	4.4	245+50	4.8	4.7	246+00	6.0	6.1
246+50	6.3	6.6	247+00	6.1	6.3	247+50	5.4	6.1	248+00	5.3	5.9
248+50	5.7	5.9	249+00	5.6	5.8	249+50	5.5	6.3	250+00	5.2	6.0
250+50	5.1	5.5	251+00	5.3	5.8	251+50	5.0	5.2	252+00	5.2	5.3
252+50	5.5	5.7	253+00	5.1	5.2	253+50	5.7	6.0	254+00	6.0	6.8
254+50	5.5	6.4	255+00	5.0	5.9	255+50	5.1	5.9	256+00	4.9	5.4
256+50	5.0	5.6	257+00	5.0	6.0	257+50	4.9	5.9	258+00	4.8	5.8
258+50	5.0	5.2	259+00	5.0	5.2	259+50	4.9	5.6	260+00	4.8	5.1
260+50	4.8	4.9	261+00	5.0	5.5	261+50	5.5	6.3	262+00	5.0	5.5
262+50	4.7	4.2	263+00	5.2	5.0	263+50	5.5	5.3	264+00	5.7	5.3
264+50	4.8	4.8	265+00	4.1	4.2	265+50	4.2	4.0	266+00	4.8	4.6
266+50	5.1	5.0	267+00	5.1	5.2	267+50	5.4	5.9	268+00	4.9	5.6
268+50	4.6	4.9	269+00	5.2	5.3	269+50	5.4	5.5	270+00	5.3	5.4
270+50	5.6	5.7	271+00	6.1	6.2	271+50	5.9	6.1	272+00	5.5	5.5
272+50	4.9	5.0	273+00	5.3	5.7	273+50	5.7	6.2	274+00	5.7	6.2
274+50	5.3	5.6	275+00	5.2	5.7	275+50	4.7	4.8	276+00	5.0	5.0
276+50	5.3	5.4	277+00	4.9	4.8	277+50	5.2	5.1	278+00	4.9	4.9
278+50	5.5	6.1	279+00	5.5	5.6	279+50	5.2	5.3	280+00	5.1	5.4
280+50	5.4	5.5	281+00	5.4	5.5	281+50	5.6	5.8	282+00	6.1	5.6
282+50	5.9	5.7	283+00	5.2	5.5	283+50	5.4	5.0	284+00	5.3	5.1
284+50	6.2	5.6	285+00	5.9	5.8	285+50	5.6	5.6	286+00	6.4	5.7
286+50	5.7	5.9	287+00	5.9	5.8	287+50	5.9	5.6	288+00	5.8	5.8
288+50	5.8	5.3	289+00	5.3	5.3	289+50	5.6	5.6	290+00	5.8	5.8
290+50	5.5	5.7	291+00	5.1	5.3	291+50	4.9	4.9	292+00	5.0	4.8
292+50	5.3	5.1	293+00	5.6	5.8	293+50	5.6	6.7	294+00	5.8	6.5
294+50	5.7	6.6	295+00	6.6	7.1	295+50	6.2	6.6	296+00	5.8	6.0
296+50	5.5	6.1	297+00	5.6	6.1	297+50	5.5	6.0	298+00	5.0	5.5
298+50	5.2	6.1	299+00	5.3	6.1	299+50	5.2	5.5	300+00	4.6	4.4

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
300+50	4.8	4.7	301+00	5.0	5.6	301+50	5.2	5.9	302+00	4.9	5.6
302+50	5.0	5.3	303+00	5.5	5.8	303+50	5.1	5.7	304+00	4.9	5.9
304+50	4.9	5.6	305+00	4.7	5.6	305+50	4.8	6.1	306+00	5.0	5.9
306+50	5.2	6.1	307+00	5.3	6.1	307+50	5.6	6.6	308+00	5.1	5.7
308+50	5.1	6.0	309+00	5.0	6.0	309+50	5.8	6.9	310+00	5.4	6.4
310+50	5.1	6.6	311+00	5.3	6.4	311+50	4.8	5.7	312+00	5.3	6.1
312+50	5.3	6.1	313+00	5.1	5.8	313+50	5.5	6.2	314+00	6.0	7.2
314+50	5.8	7.3	315+00	5.3	6.2	315+50	4.9	5.4	316+00	5.2	5.4
316+50	5.2	5.3	317+00	5.1	5.4	317+50	5.5	6.0	318+00	5.4	5.8
318+50	5.4	5.8	319+00	5.3	5.7	319+50	5.1	5.3	320+00	4.9	5.1
320+50	5.3	5.6	321+00	5.7	5.9	321+50	5.5	5.7	322+00	5.7	6.0
322+50	5.5	6.1	323+00	5.3	5.9	323+50	5.3	6.3	324+00	5.2	5.9
324+50	5.0	5.6	325+00	4.8	5.1	325+50	5.3	5.6	326+00	5.4	5.8
326+50	5.7	6.4	327+00	5.3	5.7	327+50	4.8	4.9	328+00	5.4	5.5
328+50	5.4	5.3	329+00	5.8	5.6	329+50	6.1	5.6	330+00	6.1	6.5
330+50	6.1	6.6	331+00	5.9	6.7	331+50	5.8	6.4	332+00	5.4	5.9
332+50	5.3	5.6	333+00	4.8	5.2	333+50	4.5	4.6	334+00	4.7	4.6
334+50	4.9	5.0	335+00	5.2	5.5	335+50	4.8	5.1	336+00	4.8	4.8
336+50	5.1	4.9	337+00	5.5	5.4	337+50	6.0	5.6	338+00	6.6	5.8
338+50	6.1	5.5	339+00	5.8	5.9	339+50	5.7	6.1	340+00	6.2	6.5
340+50	5.6	5.7	341+00	5.3	6.2	341+50	5.2	5.9	342+00	5.2	5.6
342+50	4.7	5.5	343+00	4.4	4.9	343+50	4.6	5.0	344+00	4.6	5.4
344+50	4.5	5.3	345+00	4.5	4.9	345+50	4.5	4.7	346+00	4.8	4.6
346+50	5.1	5.2	347+00	5.4	5.1	347+50	5.7	5.1	348+00	5.2	5.8
348+50	5.2	5.9	349+00	5.1	5.9	349+50	4.9	5.4	350+00	4.5	5.0
350+50	4.9	5.2	351+00	4.8	4.9	351+50	4.9	4.7	352+00	5.5	5.0
352+50	5.6	4.8	353+00	5.2	4.9	353+50	4.8	5.0	354+00	4.5	4.5
354+50	4.9	4.3	355+00	4.5	4.3	355+50	4.7	4.7	356+00	4.8	4.8
356+50	4.7	4.6	357+00	4.8	5.2	357+50	4.8	4.7	358+00	5.0	5.0
358+50	4.9	5.2	359+00	4.4	4.5	359+50	4.3	4.4	360+00	4.4	4.3
360+50	5.0	5.0	361+00	5.5	5.9	361+50	5.2	5.7	362+00	4.8	4.5
362+50	4.5	4.5	363+00	4.9	5.3	363+50	5.1	5.2	364+00	5.5	4.9
364+50	4.9	4.6	365+00	5.1	4.9	365+50	5.3	4.5	366+00	5.7	5.3
366+50	6.4	6.3	367+00	7.1	7.1	367+50	7.4	7.8	368+00	6.7	7.5
368+50	6.6	6.5	369+00	7.5	6.8	369+50	6.4	6.2	370+00	6.2	6.2
370+50	6.4	6.1	371+00	6.6	6.2	371+50	6.0	6.0	372+00	6.1	5.6
372+50	6.5	6.6	373+00	6.4	6.8	373+50	5.8	5.9	374+00	6.3	6.5
374+50	5.9	6.3	375+00	5.5	5.8	375+50	5.8	5.9	376+00	5.7	5.8
376+50	6.1	5.8	377+00	7.3	5.5	377+50	10.3	5.5	378+00	9.9	7.3
378+50	9.4	10.8	379+00	9.5	10.3	379+50	10.4	11.2	380+00	9.9	10.4
380+50	8.9	9.6	381+00	9.3	9.5	381+50	9.4	10.0	382+00	9.0	9.6
382+50	8.5	9.3	383+00	8.8	9.5	383+50	8.8	9.4	384+00	8.8	9.3
384+50	8.5	9.4	385+00	8.5	9.4	385+50	8.8	9.4	386+00	8.9	9.2
386+50	9.0	9.8	387+00	9.1	9.6	387+50	9.5	10.0	388+00	9.1	9.3

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
388+50	8.8	9.1	389+00	8.8	9.4	389+50	8.8	10.1	390+00	8.8	9.9
390+50	9.0	10.0	391+00	9.1	9.5	391+50	9.4	9.8	392+00	9.1	9.2
392+50	9.3	9.7	393+00	8.9	9.5	393+50	9.0	9.8	394+00	8.9	9.6
394+50	9.0	9.2	395+00	9.3	9.8	395+50	8.9	9.7	396+00	8.8	9.6
396+50	8.6	9.9	397+00	9.0	9.7	397+50	9.2	10.0	398+00	9.2	9.6
398+50	9.2	9.8	399+00	8.6	9.4	399+50	8.6	9.3	400+00	9.2	9.6
400+50	9.4	10.2	401+00	9.2	10.3	401+50	9.3	10.4	402+00	8.6	10.2
402+50	8.4	9.4	403+00	8.7	9.9	403+50	8.9	10.4	404+00	8.9	10.2
404+50	9.1	10.3	405+00	8.5	9.5	405+50	8.3	8.8	406+00	8.2	9.0
406+50	8.2	8.7	407+00	8.3	9.0	407+50	8.8	9.5	408+00	8.7	9.6
408+50	8.9	9.9	409+00	9.2	10.1	409+50	9.2	9.8	410+00	9.4	9.7
410+50	9.3	9.1	411+00	8.9	9.0	411+50	9.1	9.2	412+00	9.0	9.2
412+50	8.9	9.5	413+00	9.0	9.4	413+50	8.7	9.4	414+00	9.0	9.8
414+50	8.9	9.6	415+00	8.8	8.7	415+50	8.6	9.0	416+00	8.4	8.6
416+50	8.3	8.9	417+00	8.4	9.0	417+50	8.3	9.1	418+00	8.2	8.9
418+50	8.0	8.8	419+00	7.9	8.6	419+50	8.0	8.5	420+00	8.0	8.6
420+50	8.5	9.0	421+00	8.6	9.5	421+50	9.4	10.1	422+00	9.6	10.4
422+50	9.6	10.1	423+00	10.0	10.6	423+50	10.1	10.6	424+00	9.7	10.6
424+50	10.2	9.9	425+00	9.8	10.0	425+50	9.5	9.9	426+00	9.5	10.0
426+50	9.2	10.0	427+00	9.3	9.8	427+50	9.8	10.2	428+00	9.2	9.3
428+50	9.3	9.5	429+00	9.3	9.7	429+50	9.0	9.5	430+00	9.1	9.5
430+50	9.2	9.4	431+00	9.1	9.8	431+50	8.9	9.9	432+00	9.1	10.3
432+50	9.3	10.6	433+00	9.4	10.4	433+50	9.0	9.6	434+00	9.7	9.9
434+50	9.4	9.8	435+00	9.3	9.8	435+50	9.2	9.8	436+00	9.0	9.6
436+50	8.9	9.7	437+00	9.4	9.3	437+50	9.3	9.4	438+00	9.7	9.9
438+50	9.5	10.1	439+00	9.7	10.2	439+50	9.6	10.8	440+00	9.3	9.9
440+50	9.6	9.8	441+00	9.1	9.4	441+50	9.0	9.4	442+00	9.7	9.8
442+50	9.0	9.5	443+00	9.7	10.0	443+50	9.7	10.1	444+00	9.6	9.7
444+50	9.7	10.0	445+00	9.9	10.2	445+50	10.0	10.2	446+00	10.0	9.9
446+50	10.0	10.0	447+00	9.5	10.1	447+50	9.1	9.5	448+00	9.1	9.9
448+50	9.8	10.4	449+00	9.6	9.8	449+50	9.2	9.6	450+00	8.9	9.8
450+50	8.8	9.7	451+00	9.0	10.1	451+50	9.0	10.3	452+00	9.3	10.5
452+50	8.9	10.4	453+00	9.0	10.6	453+50	9.0	10.6	454+00	9.5	10.4
454+50	9.0	10.2	455+00	8.7	9.5	455+50	8.5	9.3	456+00	8.6	9.2
456+50	8.4	9.2	457+00	8.7	9.0	457+50	6.5	6.9	458+00	6.6	6.9
458+50	6.5	7.0	459+00	6.0	6.7	459+50	6.2	6.9	460+00	6.6	7.1
460+50	6.5	7.2	461+00	6.4	6.9	461+50	6.0	6.4	462+00	6.1	6.6
462+50	6.2	6.5	463+00	6.1	6.5	463+50	5.9	6.3	464+00	6.1	6.5
464+50	6.1	6.4	465+00	6.0	6.4	465+50	6.2	6.8	466+00	6.3	6.7
466+50	6.5	6.8	467+00	6.8	7.1	467+50	6.9	7.0	468+00	6.6	7.3
468+50	6.2	7.3	469+00	6.6	7.6	469+50	6.6	7.6	470+00	6.4	7.5
470+50	6.4	6.9	471+00	6.0	6.4	471+50	6.0	6.5	472+00	6.4	5.8
472+50	6.8	6.0	473+00	6.2	6.1	473+50	6.7	6.7	474+00	6.8	6.8
474+50	6.0	6.7	475+00	6.2	7.0	475+50	6.3	6.5	476+00	6.7	7.2

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
476+50	6.5	6.6	477+00	6.9	7.0	477+50	6.5	7.5	478+00	6.6	7.6
478+50	7.2	7.7	479+00	6.9	7.4	479+50	6.6	7.4	480+00	6.7	6.8
480+50	6.6	6.9	481+00	6.2	7.2	481+50	7.0	7.7	482+00	6.6	7.0
482+50	6.6	6.9	483+00	6.3	6.5	483+50	5.9	6.1	484+00	6.1	6.5
484+50	6.6	7.2	485+00	6.9	7.1	485+50	6.3	6.5	486+00	6.6	6.4
486+50	7.0	7.3	487+00	7.1	6.9	487+50	6.4	6.0	488+00	6.6	6.6
488+50	7.0	7.4	489+00	6.9	6.8	489+50	6.7	7.2	490+00	6.7	7.2
490+50	6.2	6.8	491+00	7.1	7.6	491+50	7.8	8.3	492+00	7.7	8.4
492+50	7.2	7.9	493+00	7.4	8.0	493+50	7.6	8.3	494+00	7.7	8.8
494+50	7.8	8.6	495+00	7.8	8.5	495+50	7.7	8.4	496+00	6.2	7.2
496+50	6.4	7.4	497+00	6.6	8.1	497+50	6.7	7.2	498+00	6.1	5.9
498+50	6.0	5.9	499+00	6.3	6.0	499+50	5.8	6.0	500+00	5.7	6.0
500+50	6.3	6.9	501+00	6.5	6.9	501+50	6.6	7.3	502+00	6.6	6.6
502+50	6.4	6.7	503+00	6.2	6.4	503+50	6.2	6.6	504+00	6.0	6.4
504+50	6.4	7.1	505+00	6.0	6.4	505+50	5.7	6.0	506+00	5.9	6.7
506+50	6.3	6.6	507+00	6.0	6.2	507+50	5.9	6.4	508+00	5.9	6.5
508+50	6.3	6.6	509+00	5.8	6.0	509+50	5.9	6.2	510+00	5.8	6.1
510+50	6.0	6.1	511+00	6.1	6.4	511+50	5.9	6.5	512+00	5.8	6.6
512+50	5.6	6.7	513+00	6.3	7.0	513+50	6.1	6.3	514+00	5.9	6.7
514+50	6.1	6.6	515+00	6.2	6.9	515+50	7.1	7.2	516+00	6.5	6.6
516+50	5.8	6.5	517+00	6.5	6.5	517+50	5.9	6.3	518+00	5.8	6.4
518+50	5.6	6.0	519+00	6.0	6.2	519+50	6.4	6.9	520+00	6.1	6.2
520+50	6.2	6.4	521+00	5.9	5.8	521+50	5.7	6.0	522+00	6.0	7.0
522+50	6.4	7.4	523+00	6.0	7.7	523+50	6.3	7.8	524+00	6.3	8.0
524+50	6.6	7.4	525+00	6.7	7.5	525+50	7.1	8.0	526+00	7.0	7.6
526+50	6.7	7.3	527+00	6.4	7.1	527+50	6.3	6.5	528+00	6.1	6.7
528+50	6.4	6.5	529+00	6.7	6.8	529+50	6.7	6.9	530+00	7.0	7.4
530+50	6.4	6.9	531+00	7.0	7.6	531+50	7.3	7.8	532+00	6.9	7.0
532+50	6.8	7.3	533+00	7.0	7.2	533+50	6.7	7.1	534+00	6.5	7.0
534+50	6.8	6.9	535+00	7.1	6.8	535+50	7.1	6.8	536+00	6.6	7.1
536+50	6.7	6.9	537+00	7.0	7.5	537+50	7.0	7.2	538+00	6.3	6.6
538+50	6.7	6.7	539+00	6.3	6.4	539+50	6.4	6.6	540+00	6.7	6.9
540+50	7.1	7.3	541+00	6.6	6.4	541+50	6.8	7.0	542+00	6.7	7.0
542+50	6.7	6.6	543+00	6.5	6.6	543+50	6.3	6.8	544+00	6.1	6.3
544+50	5.8	6.2	545+00	6.0	6.3	545+50	5.8	6.3	546+00	5.8	6.3
546+50	5.6	5.9	547+00	6.2	6.5	547+50	5.4	5.7	548+00	5.2	5.6
548+50	5.5	5.8	549+00	5.2	5.5	549+50	5.5	5.6	550+00	5.5	5.8
550+50	6.4	6.5	551+00	6.3	6.4	551+50	5.9	6.0	552+00	5.9	5.9
552+50	5.8	6.2	553+00	5.8	6.5	553+50	5.8	6.7	554+00	6.2	6.3
554+50	5.9	6.0	555+00	5.9	5.9	555+50	6.4	6.3	556+00	5.9	6.2
556+50	5.5	5.7	557+00	5.8	6.0	557+50	6.4	6.3	558+00	5.4	5.4
558+50	5.3	5.4	559+00	5.4	5.8	559+50	5.9	6.4	560+00	6.3	7.1
560+50	6.3	6.8	561+00	6.6	6.8	561+50	7.2	7.2	562+00	6.5	6.9
562+50	6.2	6.2	563+00	6.4	6.1	563+50	6.0	6.3	564+00	5.9	6.3

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
564+50	6.0	6.6	565+00	6.5	6.8	565+50	6.3	6.5	566+00	6.6	6.7
566+50	6.2	6.3	567+00	6.2	6.3	567+50	7.1	6.9	568+00	7.1	7.3
568+50	6.5	6.8	569+00	6.5	6.9	569+50	6.5	6.9	570+00	5.8	6.3
570+50	5.7	6.0	571+00	5.9	6.1	571+50	6.7	7.5	572+00	6.7	7.4
572+50	6.7	7.6	573+00	7.0	7.2	573+50	7.2	7.6	574+00	7.4	7.6
574+50	7.2	7.8	575+00	7.1	7.6	575+50	6.9	7.3	576+00	6.8	7.2
576+50	7.0	7.5	577+00	6.8	7.1	577+50	6.8	7.0	578+00	6.6	7.0
578+50	6.8	7.4	579+00	6.6	7.0	579+50	7.5	7.6	580+00	7.3	8.0
580+50	7.6	8.2	581+00	7.9	8.5	581+50	7.9	8.3	582+00	8.0	8.5
582+50	7.9	8.4	583+00	7.0	7.9	583+50	6.7	7.7	584+00	6.6	7.4
584+50	6.4	7.2	585+00	6.3	7.1	585+50	6.8	7.2	586+00	6.7	7.4
586+50	6.6	7.1	587+00	6.5	7.1	587+50	6.5	7.2	588+00	6.3	7.1
588+50	6.8	7.7	589+00	6.6	7.4	589+50	6.7	7.8	590+00	6.9	7.9
590+50	7.4	8.5	591+00	7.1	8.3	591+50	7.0	8.0	592+00	6.9	7.9
592+50	7.1	8.0	593+00	6.9	7.7	593+50	7.1	7.8	594+00	7.4	8.0
594+50	7.3	7.9	595+00	7.2	7.7	595+50	7.6	7.8	596+00	7.4	7.6
596+50	6.9	6.9	597+00	6.8	6.8	597+50	6.5	6.8	598+00	7.2	7.5
598+50	6.7	7.0	599+00	6.8	7.0	599+50	7.2	7.5	600+00	7.0	7.2
600+50	6.8	6.8	601+00	6.8	6.9	601+50	6.4	6.5	602+00	6.6	6.9
602+50	6.8	7.1	603+00	7.2	6.8	603+50	7.1	7.2	604+00	6.8	7.2
604+50	7.0	7.6	605+00	7.4	7.9	605+50	7.9	8.2	606+00	7.7	8.2
606+50	8.0	8.1	607+00	8.2	7.9	607+50	8.1	8.0	608+00	7.9	7.9
608+50	7.6	8.0	609+00	8.2	7.8	609+50	7.7	8.0	610+00	7.3	7.5
610+50	7.8	7.9	611+00	7.8	7.4	611+50	7.5	7.4	612+00	7.1	7.5
612+50	7.1	7.7	613+00	7.1	7.3	613+50	7.6	7.4	614+00	8.0	7.9
614+50	7.4	7.6	615+00	7.0	7.6	615+50	7.2	7.9	616+00	7.3	7.5
616+50	7.5	7.7	617+00	7.6	8.0	617+50	6.9	7.4	618+00	7.0	7.8
618+50	7.1	7.5	619+00	6.4	7.2	619+50	6.9	7.4	620+00	7.2	7.3
620+50	6.8	7.5	621+00	8.0	8.5	621+50	7.7	7.7	622+00	7.7	7.5
622+50	7.9	7.9	623+00	8.3	8.7	623+50	7.9	8.2	624+00	7.6	7.9
624+50	6.9	7.2	625+00	6.9	7.1	625+50	6.5	7.3	626+00	7.9	8.1
626+50	7.1	7.9	627+00	7.1	7.9	627+50	7.6	8.0	628+00	7.4	7.7
628+50	6.3	6.3	629+00	5.4	5.4	629+50	5.8	5.8	630+00	6.3	6.6
630+50	6.2	6.3	631+00	6.4	6.3	631+50	6.4	6.9	632+00	6.9	6.9
632+50	6.5	7.0	633+00	6.4	6.9	633+50	6.6	7.0	634+00	6.9	7.3
634+50	6.8	7.4	635+00	7.0	7.6	635+50	7.3	7.4	636+00	6.7	7.3
636+50	6.8	7.0	636+99	7.2	7.3						

MaineDOT

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

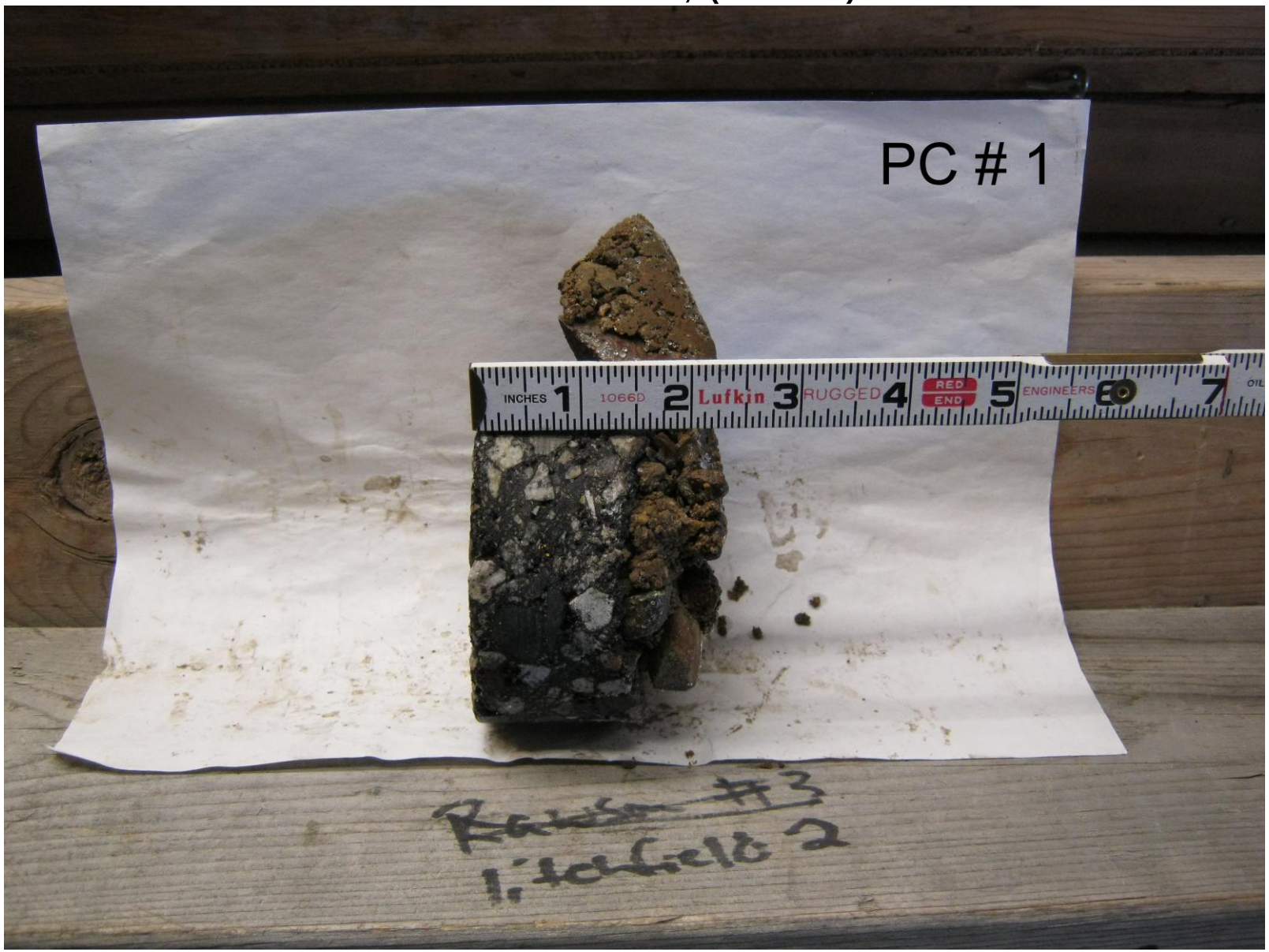
020272.00 - Lebanon, Sanford

Station	Left Offset, ft					CL	Right Offset, ft					Comments
		21	13	9	3		3	6	9	11	13	
50+00						5.75	6.25		6.5		1.75	
140+00						6.25	6.25		6.5			
240+00						6	6		6.25		3.5	
320+00						6.5	6.5		7.25		2.5	
374+00								10.5		6.5	3	
420+00						10	10		9.75		4	
540+00						5.75	6		6.25		3	
600+00						7.75	8		7.5		2.5	

Highlighted areas indicate pavement cores were taken at this location.

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 50+00, (Shoulder) 13' RT

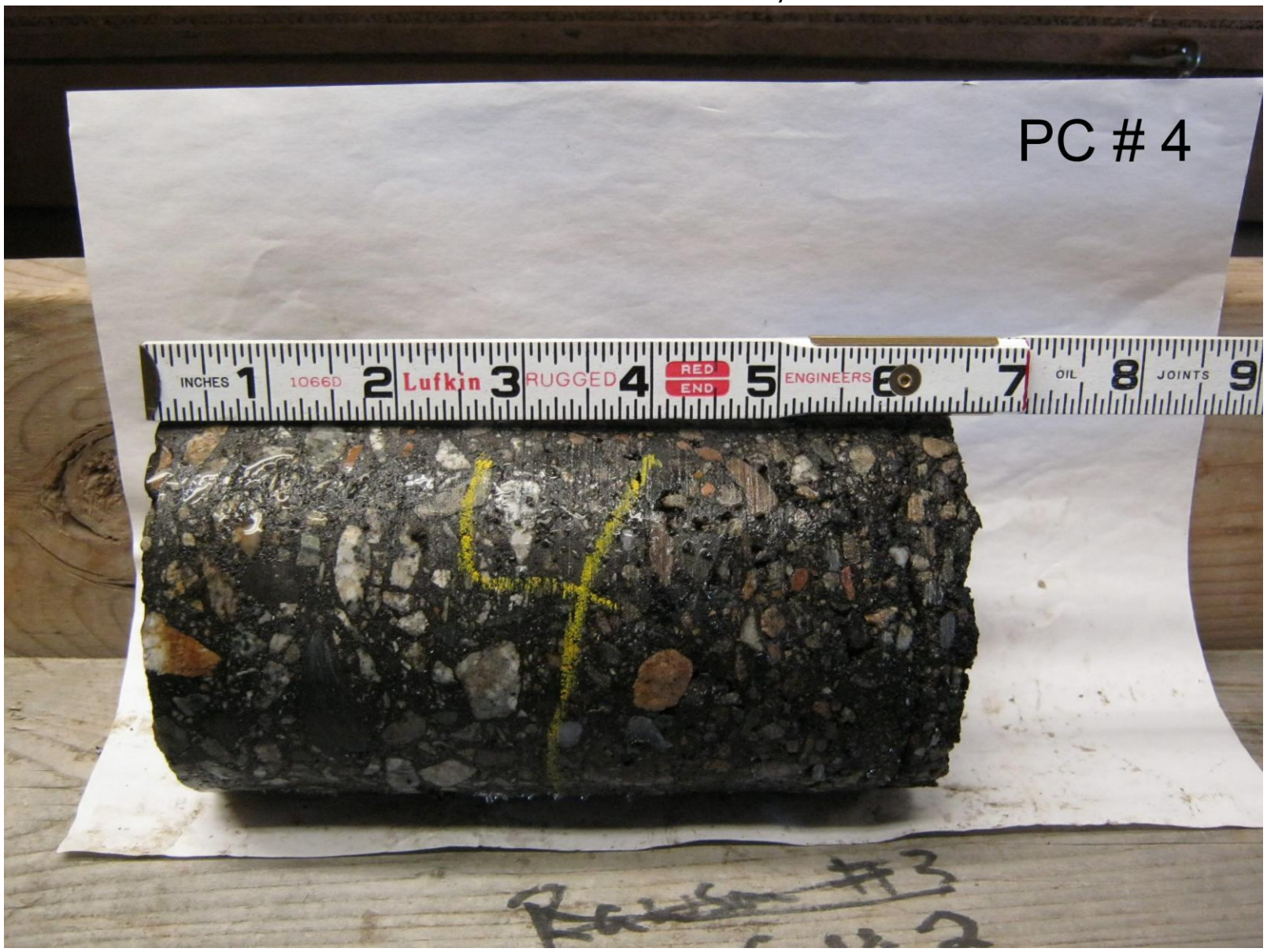


MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 50+00, 9' RT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 140+00, 9' RT

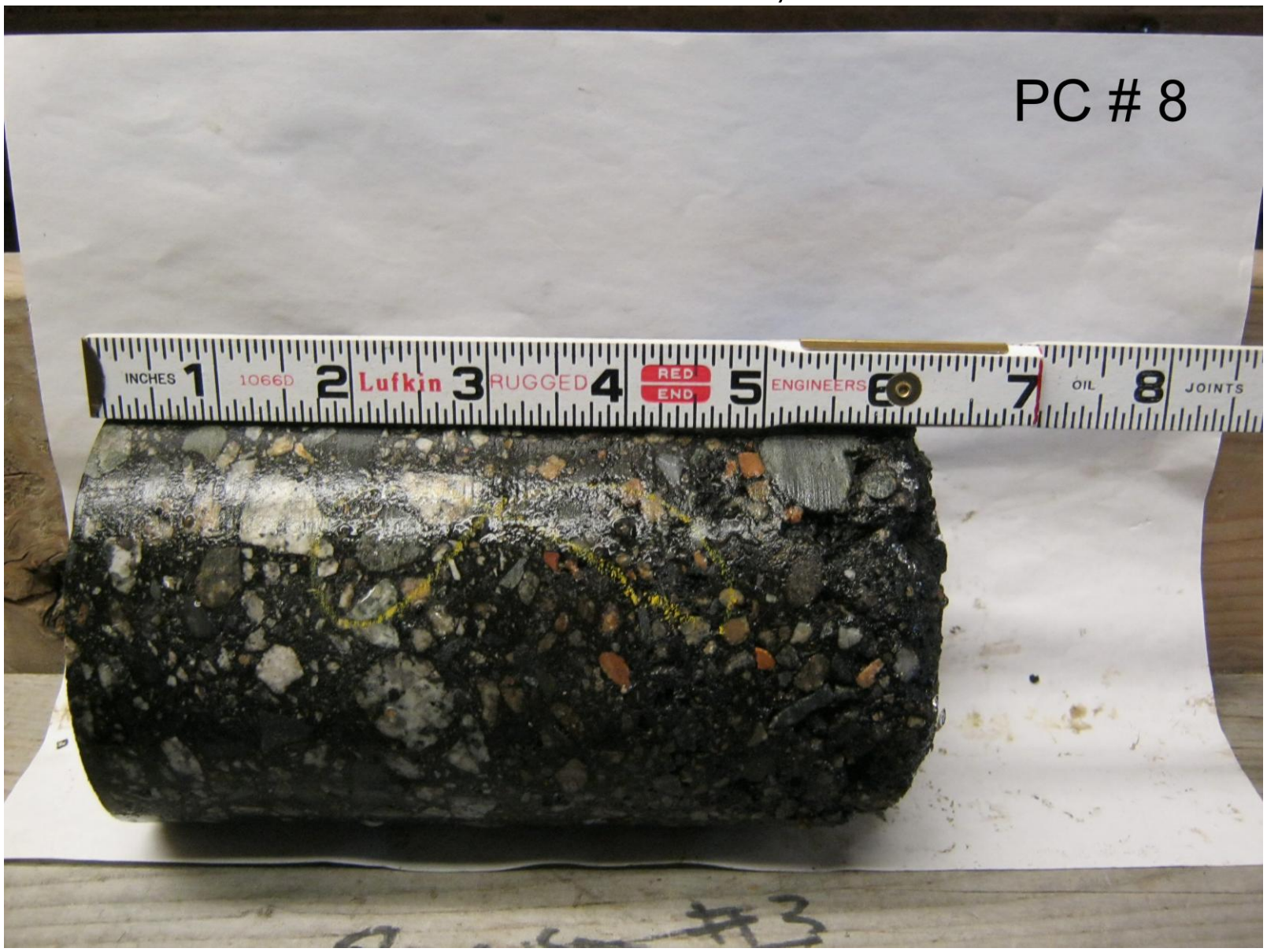


MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 240+00, (Shoulder) 13' RT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 240+00, 9' RT



MaineDOT

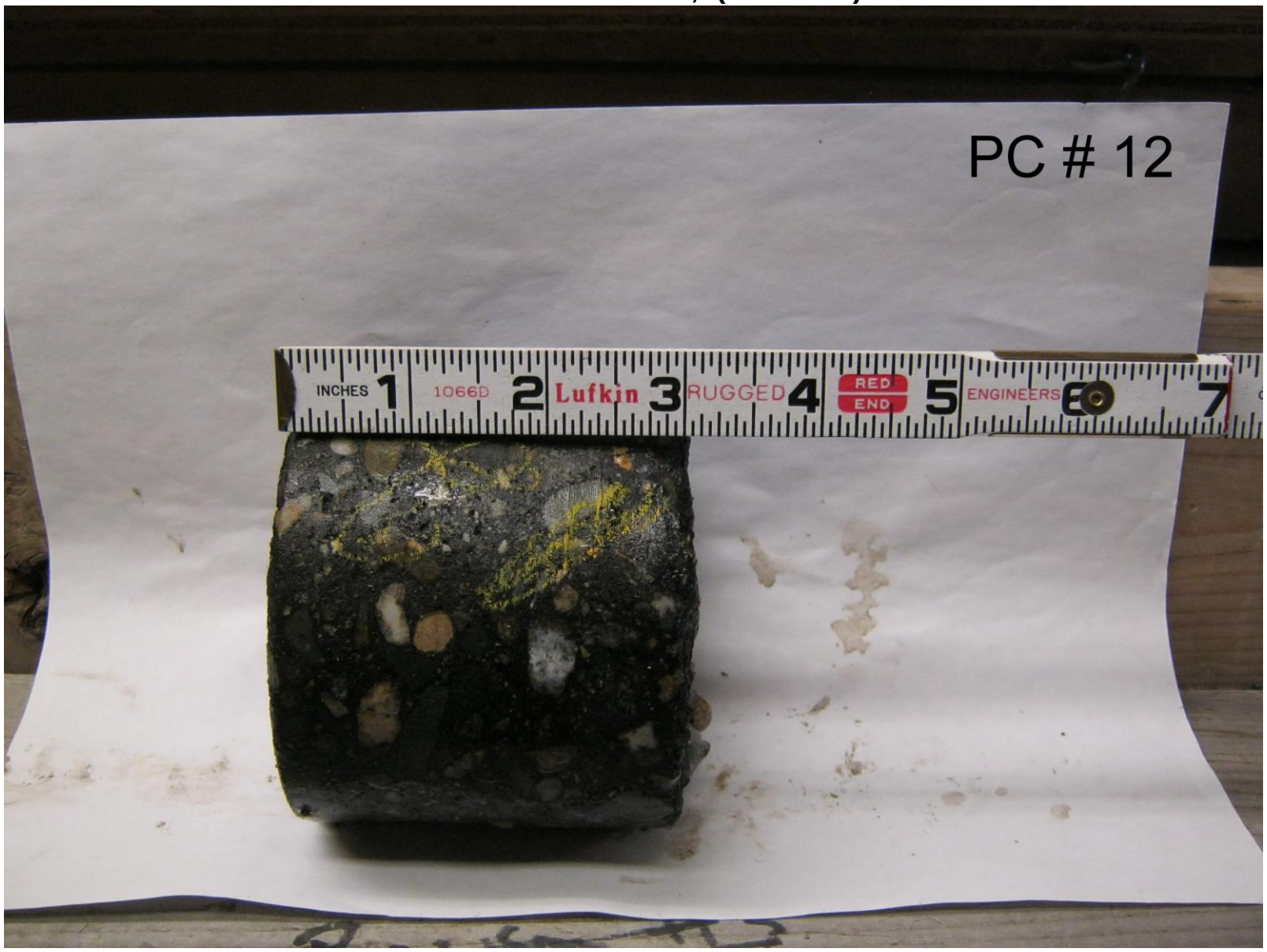
Pavement Cores
020272.00 - Lebanon, Sanford
STATION 320+00, 9' RT

MaineDOT

Pavement Cores

020272.00 - Lebanon, Sanford

STATION 374+00, (Shoulder) 13' RT

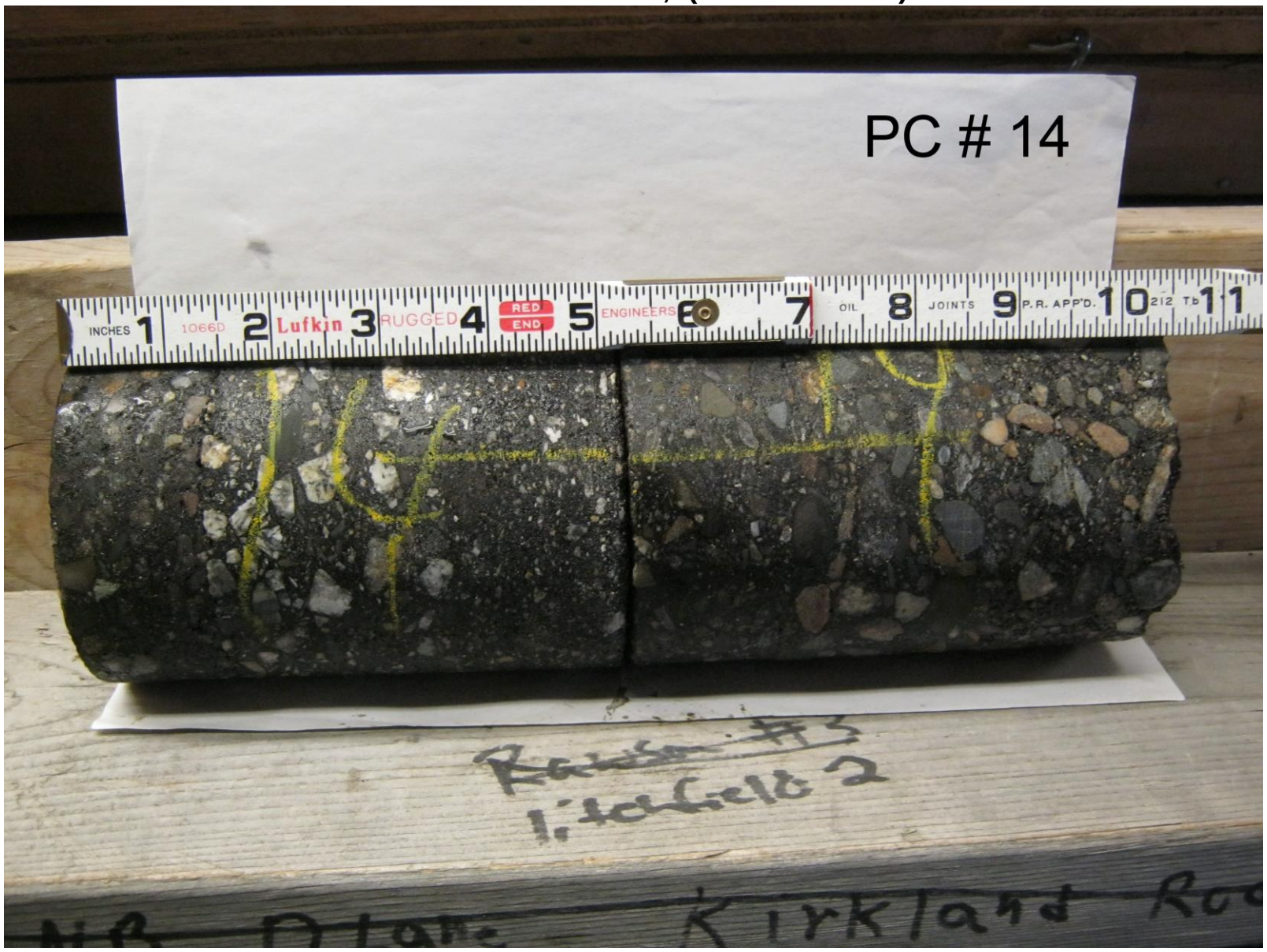


MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 374+00, 11' RT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 374+00, (Visible Trench) 6' RT



MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 540+00, (Shoulder) 13' RT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 540+00, 9' RT

MaineDOT

Pavement Cores

020272.00 - Lebanon, Sanford

STATION 600+00, (Shoulder) 13' RT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 600+00, 9

MaineDOT

Ground Penetrating Radar (GPR)
Estimated Pavement Thickness
020272.00 - Lebanon, Sanford

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected at the inner and outer wheel path of the lane at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems, Inc. (GSSI) RADAN7 GPR data processing software. Where available, pavement thickness values from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

Data Confidence Level:

Very Good - Reflection layers appear strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments

Project Manager	Reported By	Test Date	Reported Date
LOVELY, EMORY D	**VOSE, RYAN K**	**11/4/2013**	**2/4/2014**

Lane Tested	Route	PMS Route Code	Analysis Distance, ft.
LEFT TURNING LANE	**11/202**		**50**

Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
6.7	**6.1**	**7.5**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
468+00	6.7	7.0	468+50	6.6	6.8	469+00	6.5	6.8	469+50	6.6	7.2
470+00	6.5	6.7	470+50	6.3	6.6	471+00	6.6	6.5	471+50	6.7	6.8
472+00	6.9	6.1	472+50	6.9	7.0	473+00	6.7	7.1	473+50	6.4	7.0
474+00	7.0	7.5	474+50	6.9	6.7	475+00	6.7	6.9	475+50	6.9	6.8
476+00	7.0	7.2	476+50	6.7	6.4	477+00	6.7	6.6	477+50	7.0	6.8
478+00	6.6	6.9	478+50	7.1	7.0	479+00	6.5	6.4	479+50	7.1	6.8
480+00	6.8	6.4	480+50	6.7	6.7	481+00	6.6	6.2	481+50	6.7	6.3
482+00	6.4	6.3	482+50	6.5	7.0	483+00	6.6	6.4	483+50	6.4	6.3
484+00	6.6	7.2	484+50	6.9	6.8	485+00	7.0	7.2	485+50	6.5	6.8
486+00	6.7	6.5	486+50	6.6	6.9	487+00	6.5	6.6	487+50	6.5	6.6
488+00	6.5	6.6	488+50	6.6	6.8	489+00	6.8	7.1	489+50	6.6	6.8
489+98	6.3	6.5									

MaineDOT

Ground Penetrating Radar (GPR)
Estimated Pavement Thickness
020272.00 - Lebanon, Sanford

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected at the inner and outer wheel path of the lane at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems, Inc. (GSSI) RADAN7 GPR data processing software. Where available, pavement thickness values from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

Data Confidence Level:

Very Good - Reflection layers appear strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments
Macadam present between Stations 10+00 - 70+00 and 83+00 - 370+00. Measurements in these areas are pavement depth to top of Macadam.

Project Manager	Reported By	Test Date	Reported Date
LOVELY, EMORY D	**VOSE, RYAN K**	**11/4/2013**	**2/4/2014**

Lane Tested	Route	PMS Route Code	Analysis Distance, ft.
WESTBOUND LANE	**11/202**		**50**

Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
6.5	**4.2**	**10.7**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
10+50	3.6	4.8	11+00	4.5	5.1	11+50	5.1	5.7	12+00	5.1	5.3
12+50	6.0	5.0	13+00	5.8	5.8	13+50	5.5	5.9	14+00	5.8	5.4
14+50	5.9	5.9	15+00	5.5	6.0	15+50	5.6	5.8	16+00	5.8	5.3
16+50	4.8	4.6	17+00	4.8	5.6	17+50	4.9	6.4	18+00	5.9	7.2
18+50	6.8	8.4	19+00	6.0	7.2	19+50	5.6	7.4	20+00	5.9	7.1
20+50	5.1	6.0	21+00	5.2	5.7	21+50	5.0	6.2	22+00	5.9	6.8
22+50	6.1	6.9	23+00	6.2	6.9	23+50	6.0	6.6	24+00	5.8	6.2
24+50	5.2	5.5	25+00	5.0	5.1	25+50	5.1	5.3	26+00	6.0	6.0
26+50	6.5	6.1	27+00	6.0	6.3	27+50	5.6	6.3	28+00	5.4	5.8
28+50	5.3	5.7	29+00	5.3	5.4	29+50	5.6	5.8	30+00	6.3	6.1
30+50	5.9	6.2	31+00	5.6	5.6	31+50	5.4	5.6	32+00	6.5	6.8
32+50	6.2	6.7	33+00	6.2	6.3	33+50	6.5	6.0	34+00	6.2	6.1
34+50	5.7	5.8	35+00	5.7	5.7	35+50	5.9	5.9	36+00	5.6	6.1

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
36+50	5.7	5.9	37+00	5.5	5.5	37+50	5.8	5.9	38+00	6.2	6.0
38+50	5.6	5.8	39+00	6.1	5.8	39+50	6.4	5.6	40+00	5.9	5.2
40+50	5.1	5.1	41+00	4.9	5.0	41+50	5.3	5.3	42+00	5.0	5.6
42+50	5.1	5.6	43+00	5.2	5.7	43+50	5.3	6.0	44+00	5.6	6.0
44+50	5.6	5.7	45+00	5.9	5.7	45+50	5.3	5.3	46+00	6.4	5.2
46+50	6.1	5.2	47+00	6.3	5.2	47+50	6.1	5.3	48+00	5.3	5.1
48+50	5.2	5.1	49+00	5.4	5.1	49+50	5.1	5.1	50+00	5.5	5.1
50+50	5.9	5.3	51+00	6.7	5.0	51+50	6.0	5.3	52+00	6.1	5.9
52+50	6.4	6.3	53+00	6.4	6.3	53+50	6.5	6.5	54+00	5.9	6.4
54+50	6.2	6.2	55+00	5.3	5.4	55+50	5.5	5.8	56+00	6.1	6.2
56+50	7.2	6.1	57+00	5.4	6.1	57+50	6.4	6.3	58+00	6.6	6.8
58+50	6.6	7.1	59+00	6.7	6.9	59+50	6.2	6.6	60+00	5.5	5.9
60+50	5.3	5.7	61+00	5.9	5.8	61+50	6.3	6.4	62+00	6.5	6.3
62+50	6.6	5.7	63+00	5.7	6.2	63+50	6.0	5.8	64+00	5.8	5.9
64+50	6.5	5.7	65+00	6.1	5.6	65+50	6.1	5.4	66+00	5.5	5.3
66+50	5.7	5.6	67+00	5.9	5.9	67+50	5.4	5.7	68+00	5.0	5.6
68+50	5.0	5.1	69+00	5.5	4.9	69+50	6.4	4.9	70+00	7.2	7.3
70+50	6.7	7.0	71+00	6.3	6.7	71+50	6.3	6.7	72+00	6.7	6.9
72+50	6.8	6.9	73+00	6.3	6.7	73+50	6.6	6.9	74+00	6.0	6.4
74+50	6.0	6.2	75+00	6.4	6.7	75+50	6.5	6.5	76+00	6.2	6.4
76+50	6.2	6.5	77+00	6.5	6.8	77+50	6.2	6.9	78+00	6.0	6.3
78+50	6.5	6.6	79+00	6.3	6.2	79+50	5.8	6.0	80+00	6.1	6.0
80+50	6.3	6.3	81+00	6.1	6.0	81+50	5.3	5.2	82+00	5.4	5.1
82+50	6.0	5.9	83+00	6.8	6.0	83+50	5.7	6.4	84+00	6.1	6.8
84+50	6.0	6.3	85+00	5.8	5.9	85+50	5.8	6.0	86+00	5.2	5.5
86+50	5.5	5.6	87+00	6.4	6.5	87+50	5.6	6.3	88+00	5.8	7.0
88+50	5.7	6.9	89+00	5.9	6.3	89+50	5.2	5.5	90+00	5.6	6.3
90+50	6.2	6.9	91+00	5.7	6.5	91+50	5.5	5.6	92+00	5.3	5.3
92+50	5.3	6.0	93+00	5.4	6.6	93+50	5.3	6.1	94+00	5.8	6.2
94+50	5.4	6.0	95+00	5.2	5.4	95+50	5.1	5.2	96+00	4.9	4.6
96+50	4.6	5.0	97+00	4.6	5.1	97+50	5.0	5.6	98+00	5.7	6.9
98+50	5.8	6.9	99+00	6.1	6.7	99+50	5.9	6.4	100+00	4.8	5.5
100+50	5.3	5.7	101+00	5.6	6.2	101+50	5.0	5.7	102+00	4.9	5.6
102+50	5.6	6.1	103+00	6.3	6.7	103+50	5.6	6.3	104+00	5.1	6.3
104+50	5.6	6.7	105+00	5.8	6.7	105+50	5.3	6.3	106+00	5.8	6.0
106+50	5.0	5.0	107+00	4.7	5.0	107+50	4.8	5.1	108+00	4.9	5.6
108+50	5.7	7.0	109+00	5.9	7.2	109+50	5.4	6.4	110+00	5.6	7.1
110+50	5.6	6.3	111+00	5.2	6.0	111+50	5.3	6.1	112+00	5.3	6.3
112+50	5.5	6.7	113+00	5.3	6.8	113+50	5.7	7.1	114+00	5.8	6.8
114+50	5.6	6.2	115+00	5.6	6.1	115+50	5.7	6.6	116+00	5.5	6.0
116+50	5.7	6.0	117+00	5.6	6.5	117+50	5.2	5.6	118+00	4.8	5.7
118+50	5.3	6.5	119+00	5.7	7.1	119+50	5.7	7.0	120+00	5.7	7.0
120+50	5.8	7.6	121+00	5.5	6.9	121+50	5.3	6.3	122+00	6.1	7.5
122+50	6.1	7.3	123+00	5.4	6.2	123+50	5.8	6.9	124+00	6.2	7.5

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
124+50	6.6	7.9	125+00	5.9	7.1	125+50	5.9	6.7	126+00	6.0	6.6
126+50	5.9	6.2	127+00	5.8	6.4	127+50	5.9	6.9	128+00	5.9	6.9
128+50	5.6	7.1	129+00	5.9	7.5	129+50	5.5	7.3	130+00	5.1	6.1
130+50	5.6	6.5	131+00	6.0	7.0	131+50	6.4	7.1	132+00	6.2	6.5
132+50	6.0	6.9	133+00	6.2	7.3	133+50	6.0	7.1	134+00	5.8	6.3
134+50	6.0	6.8	135+00	6.0	6.9	135+50	5.5	6.0	136+00	5.4	5.9
136+50	5.3	5.6	137+00	5.1	5.7	137+50	5.0	5.9	138+00	5.2	6.4
138+50	5.0	6.7	139+00	5.1	6.7	139+50	5.9	7.4	140+00	6.2	7.6
140+50	5.9	7.7	141+00	5.4	7.0	141+50	5.3	7.2	142+00	5.3	6.7
142+50	5.5	6.7	143+00	5.7	7.2	143+50	6.4	7.7	144+00	6.6	7.4
144+50	5.7	6.4	145+00	4.9	5.6	145+50	5.3	6.3	146+00	5.6	6.7
146+50	5.2	6.8	147+00	5.3	7.2	147+50	5.1	7.6	148+00	5.3	7.4
148+50	5.2	7.6	149+00	5.6	7.8	149+50	5.8	7.8	150+00	6.0	7.4
150+50	6.2	7.2	151+00	6.5	7.8	151+50	6.2	7.1	152+00	6.1	7.1
152+50	5.8	7.1	153+00	5.7	7.0	153+50	5.9	7.3	154+00	6.3	7.5
154+50	5.9	6.8	155+00	5.5	6.2	155+50	5.5	6.3	156+00	5.6	6.1
156+50	5.7	6.5	157+00	5.8	6.8	157+50	5.5	6.7	158+00	5.2	6.3
158+50	5.4	6.2	159+00	5.6	6.6	159+50	5.3	6.4	160+00	5.3	6.2
160+50	5.3	6.1	161+00	5.0	5.7	161+50	5.1	6.0	162+00	5.2	6.1
162+50	5.3	6.6	163+00	5.1	6.2	163+50	5.3	6.4	164+00	5.3	6.3
164+50	5.3	6.8	165+00	5.5	6.7	165+50	5.7	7.0	166+00	5.7	7.0
166+50	5.3	6.2	167+00	5.5	5.7	167+50	5.1	5.4	168+00	6.1	6.4
168+50	5.6	6.4	169+00	5.2	6.2	169+50	4.8	6.0	170+00	5.1	7.3
170+50	5.4	7.0	171+00	5.5	5.9	171+50	5.3	5.6	172+00	5.2	6.0
172+50	5.3	6.2	173+00	5.8	6.4	173+50	5.2	6.0	174+00	5.4	6.5
174+50	5.2	6.0	175+00	5.0	5.4	175+50	5.2	5.8	176+00	5.2	5.8
176+50	5.5	6.1	177+00	5.8	6.8	177+50	5.4	5.9	178+00	6.2	5.6
178+50	5.9	5.8	179+00	5.0	5.4	179+50	5.3	5.6	180+00	5.8	6.0
180+50	5.8	5.6	181+00	5.5	5.5	181+50	5.2	5.6	182+00	4.8	5.4
182+50	4.7	5.7	183+00	5.0	5.7	183+50	4.9	5.7	184+00	5.3	6.0
184+50	5.5	6.0	185+00	5.3	6.4	185+50	5.8	6.4	186+00	5.5	6.3
186+50	5.2	5.9	187+00	4.9	5.2	187+50	4.9	5.2	188+00	5.0	5.8
188+50	5.7	5.7	189+00	6.1	6.3	189+50	6.0	6.5	190+00	6.1	6.3
190+50	5.5	5.8	191+00	5.3	6.0	191+50	5.7	6.0	192+00	5.5	6.0
192+50	5.4	6.2	193+00	5.3	5.8	193+50	5.3	6.2	194+00	5.4	6.2
194+50	5.1	5.7	195+00	4.6	5.1	195+50	4.9	5.5	196+00	5.2	6.4
196+50	5.0	6.2	197+00	5.0	5.9	197+50	5.2	6.1	198+00	5.1	6.0
198+50	4.9	5.9	199+00	4.8	5.9	199+50	4.9	5.7	200+00	5.0	5.8
200+50	5.1	6.3	201+00	5.5	6.6	201+50	5.5	6.0	202+00	5.1	5.6
202+50	5.0	5.4	203+00	5.0	5.3	203+50	5.0	5.2	204+00	5.0	5.3
204+50	4.9	5.3	205+00	4.8	5.4	205+50	4.9	5.5	206+00	4.9	5.9
206+50	4.8	5.5	207+00	4.7	5.4	207+50	4.4	5.5	208+00	5.3	5.6
208+50	5.3	6.2	209+00	5.2	5.9	209+50	4.7	5.4	210+00	5.1	5.7
210+50	4.9	5.5	211+00	5.1	5.5	211+50	4.9	5.5	212+00	5.3	6.3

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
212+50	5.1	6.0	213+00	5.4	6.1	213+50	5.6	6.4	214+00	5.1	5.6
214+50	4.9	5.2	215+00	4.8	5.1	215+50	5.0	5.2	216+00	5.3	5.5
216+50	5.5	6.1	217+00	5.3	5.9	217+50	5.2	5.7	218+00	5.1	5.1
218+50	5.2	5.0	219+00	4.7	4.9	219+50	4.6	4.9	220+00	4.8	5.0
220+50	5.1	5.6	221+00	5.3	6.0	221+50	4.8	5.4	222+00	4.5	5.0
222+50	4.7	5.6	223+00	4.8	5.7	223+50	4.9	5.9	224+00	4.8	5.5
224+50	4.9	6.0	225+00	4.9	5.6	225+50	5.0	5.8	226+00	4.9	5.4
226+50	4.8	5.1	227+00	5.4	5.4	227+50	5.8	6.6	228+00	5.7	6.4
228+50	5.7	6.4	229+00	5.7	6.6	229+50	5.3	6.0	230+00	5.3	6.1
230+50	5.1	5.8	231+00	5.2	5.8	231+50	5.6	6.2	232+00	5.4	6.4
232+50	5.2	6.0	233+00	5.1	5.9	233+50	5.6	6.4	234+00	5.5	6.2
234+50	5.3	6.4	235+00	5.2	6.6	235+50	5.4	6.8	236+00	5.4	6.7
236+50	5.3	6.1	237+00	5.4	6.0	237+50	5.3	6.2	238+00	5.5	6.4
238+50	5.9	6.2	239+00	5.5	5.7	239+50	6.0	5.9	240+00	5.2	5.4
240+50	5.2	5.4	241+00	5.3	5.7	241+50	5.7	6.1	242+00	5.6	5.6
242+50	5.5	5.9	243+00	5.4	5.7	243+50	5.8	6.4	244+00	5.7	6.7
244+50	5.7	7.4	245+00	6.0	7.7	245+50	6.2	6.9	246+00	6.4	7.4
246+50	6.2	6.8	247+00	5.9	6.4	247+50	6.3	7.6	248+00	6.4	7.7
248+50	6.2	7.2	249+00	6.0	6.9	249+50	6.4	6.7	250+00	5.9	5.4
250+50	5.4	5.9	251+00	5.4	6.3	251+50	5.2	5.8	252+00	5.5	5.8
252+50	5.5	6.0	253+00	5.3	6.8	253+50	5.2	5.4	254+00	5.1	5.3
254+50	5.3	5.2	255+00	5.0	4.9	255+50	5.1	5.3	256+00	5.3	5.5
256+50	5.2	5.7	257+00	5.1	5.1	257+50	5.3	5.9	258+00	5.4	6.4
258+50	6.5	6.7	259+00	5.7	6.2	259+50	5.8	6.5	260+00	5.5	6.2
260+50	5.5	6.3	261+00	6.4	7.1	261+50	6.3	7.3	262+00	5.9	6.8
262+50	6.2	7.3	263+00	5.4	7.0	263+50	5.5	6.6	264+00	5.7	6.6
264+50	6.5	6.9	265+00	7.1	6.4	265+50	6.9	6.8	266+00	6.3	6.6
266+50	5.6	5.6	267+00	5.3	5.2	267+50	5.5	5.1	268+00	5.7	5.2
268+50	5.2	5.2	269+00	5.2	5.2	269+50	5.3	5.9	270+00	5.8	6.1
270+50	5.8	6.3	271+00	5.5	6.2	271+50	5.3	7.0	272+00	6.1	6.8
272+50	5.9	6.2	273+00	5.2	5.7	273+50	5.0	5.3	274+00	4.9	5.2
274+50	4.8	5.3	275+00	5.0	5.8	275+50	5.1	6.4	276+00	5.5	6.7
276+50	5.0	5.4	277+00	5.7	6.1	277+50	5.6	6.1	278+00	5.6	5.9
278+50	5.2	5.4	279+00	5.6	5.9	279+50	5.5	5.7	280+00	5.4	6.2
280+50	5.7	6.7	281+00	4.9	6.5	281+50	5.1	6.7	282+00	4.9	6.1
282+50	4.7	4.9	283+00	4.7	4.5	283+50	4.5	4.5	284+00	5.0	4.7
284+50	5.2	4.9	285+00	5.6	5.3	285+50	5.0	5.2	286+00	5.0	5.0
286+50	4.9	5.0	287+00	5.0	4.7	287+50	4.7	4.5	288+00	4.9	4.7
288+50	5.6	4.8	289+00	5.0	4.9	289+50	5.2	4.9	290+00	4.9	4.9
290+50	5.6	5.2	291+00	5.1	5.3	291+50	5.2	5.0	292+00	5.1	4.8
292+50	5.1	5.6	293+00	5.0	5.4	293+50	5.0	5.3	294+00	5.0	5.6
294+50	4.8	4.9	295+00	4.6	4.7	295+50	4.7	4.7	296+00	4.9	4.9
296+50	5.2	5.6	297+00	5.1	5.2	297+50	5.2	4.9	298+00	5.0	4.4
298+50	5.0	4.7	299+00	5.1	5.0	299+50	5.1	4.9	300+00	5.1	5.0

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
300+50	5.9	6.4	301+00	6.0	7.1	301+50	6.0	6.7	302+00	6.8	7.8
302+50	7.0	7.7	303+00	6.3	6.8	303+50	5.0	5.0	304+00	5.3	5.6
304+50	4.9	5.0	305+00	4.4	4.5	305+50	5.2	5.1	306+00	5.2	4.8
306+50	5.6	5.6	307+00	5.5	5.5	307+50	5.3	5.4	308+00	5.2	5.1
308+50	5.1	4.9	309+00	5.0	4.9	309+50	5.0	5.2	310+00	5.1	5.7
310+50	5.5	6.0	311+00	6.1	6.6	311+50	5.7	6.7	312+00	5.8	6.5
312+50	5.6	6.6	313+00	5.7	6.0	313+50	5.6	5.6	314+00	5.3	4.8
314+50	5.2	4.7	315+00	5.5	5.7	315+50	5.5	5.8	316+00	5.4	5.7
316+50	5.2	5.4	317+00	5.3	5.3	317+50	5.3	5.3	318+00	5.1	5.1
318+50	5.4	5.3	319+00	5.5	5.9	319+50	5.6	6.0	320+00	5.6	5.8
320+50	5.5	6.1	321+00	5.8	6.0	321+50	5.7	5.6	322+00	5.6	5.3
322+50	5.6	5.9	323+00	5.1	5.4	323+50	5.2	5.4	324+00	5.5	5.7
324+50	5.7	6.2	325+00	5.4	6.2	325+50	5.7	5.7	326+00	5.3	5.8
326+50	5.1	5.0	327+00	5.9	5.6	327+50	5.6	5.3	328+00	5.5	5.2
328+50	5.7	5.7	329+00	5.9	6.2	329+50	5.9	6.0	330+00	6.0	5.9
330+50	5.8	5.9	331+00	5.5	6.0	331+50	5.4	5.5	332+00	5.2	5.8
332+50	4.9	5.1	333+00	4.8	4.7	333+50	5.1	5.3	334+00	5.4	5.8
334+50	5.4	6.1	335+00	5.3	5.9	335+50	5.4	5.6	336+00	6.0	6.4
336+50	6.1	6.5	337+00	5.9	6.8	337+50	5.9	7.1	338+00	6.1	7.1
338+50	5.8	6.6	339+00	5.9	6.5	339+50	6.4	7.3	340+00	5.7	7.5
340+50	5.3	6.0	341+00	5.1	5.6	341+50	5.0	5.4	342+00	4.8	4.9
342+50	4.6	4.8	343+00	5.2	5.1	343+50	4.7	5.0	344+00	4.6	4.9
344+50	5.1	5.1	345+00	5.2	5.1	345+50	5.6	5.1	346+00	5.4	5.5
346+50	5.4	5.7	347+00	5.4	5.8	347+50	5.0	5.0	348+00	4.9	4.9
348+50	4.9	5.0	349+00	4.9	4.9	349+50	5.4	5.0	350+00	5.2	5.5
350+50	5.5	5.7	351+00	5.5	5.4	351+50	4.9	5.6	352+00	4.8	5.3
352+50	5.2	5.3	353+00	4.9	5.1	353+50	4.9	5.1	354+00	4.8	5.1
354+50	4.9	5.2	355+00	4.9	5.1	355+50	4.9	5.2	356+00	4.9	4.9
356+50	5.0	5.1	357+00	5.2	5.5	357+50	4.8	5.0	358+00	4.2	4.3
358+50	4.9	5.0	359+00	5.1	5.5	359+50	5.3	5.8	360+00	5.4	6.1
360+50	5.3	6.4	361+00	4.8	6.0	361+50	4.7	5.4	362+00	5.1	5.8
362+50	5.1	5.3	363+00	5.0	5.7	363+50	4.9	5.2	364+00	5.3	5.9
364+50	4.9	5.6	365+00	5.3	6.0	365+50	6.5	6.7	366+00	7.6	7.6
366+50	6.8	6.9	367+00	6.1	6.2	367+50	5.9	5.7	368+00	6.0	6.6
368+50	6.5	7.2	369+00	7.1	7.4	369+50	7.4	6.4	370+00	8.0	5.8
370+50	8.3	5.6	371+00	8.2	5.9	371+50	7.6	5.6	372+00	7.3	6.0
372+50	7.3	5.7	373+00	7.0	5.3	373+50	7.5	5.3	374+00	8.8	5.8
374+50	8.7	5.5	375+00	8.7	5.0	375+50	8.7	5.1	376+00	10.0	5.2
376+50	10.1	5.6	377+00	10.9	6.0	377+50	11.2	5.5	378+00	10.5	10.6
378+50	10.2	11.1	379+00	10.1	10.5	379+50	9.9	10.0	380+00	8.1	8.1
380+50	8.1	8.0	381+00	8.0	8.0	381+50	8.0	8.1	382+00	8.0	8.5
382+50	8.1	8.5	383+00	8.1	8.4	383+50	8.3	8.7	384+00	8.7	8.9
384+50	8.9	9.5	385+00	9.1	9.6	385+50	8.8	9.2	386+00	8.9	9.1
386+50	9.0	9.2	387+00	9.4	9.5	387+50	9.0	9.5	388+00	8.9	9.2

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
388+50	8.5	8.7	389+00	8.9	9.3	389+50	9.0	9.4	390+00	8.7	8.8
390+50	8.4	8.7	391+00	9.0	8.9	391+50	9.0	8.7	392+00	8.9	8.6
392+50	8.1	8.5	393+00	8.6	8.9	393+50	9.1	9.0	394+00	9.1	9.1
394+50	9.1	9.3	395+00	8.4	8.5	395+50	8.4	8.4	396+00	8.6	8.7
396+50	9.1	9.3	397+00	8.9	8.7	397+50	8.9	9.0	398+00	9.3	8.7
398+50	8.5	8.4	399+00	9.2	9.1	399+50	9.3	9.4	400+00	9.7	9.9
400+50	9.5	9.8	401+00	9.3	9.4	401+50	9.2	9.4	402+00	9.2	9.8
402+50	9.2	9.8	403+00	8.8	8.6	403+50	8.5	8.0	404+00	8.5	8.3
404+50	8.3	8.1	405+00	8.4	8.5	405+50	8.2	8.4	406+00	8.1	7.9
406+50	8.2	7.9	407+00	8.6	8.5	407+50	8.6	8.4	408+00	9.1	9.1
408+50	9.2	9.3	409+00	8.8	8.7	409+50	9.4	9.5	410+00	9.1	9.1
410+50	9.0	8.9	411+00	8.8	8.5	411+50	8.8	8.3	412+00	9.3	9.2
412+50	8.4	8.3	413+00	8.4	8.5	413+50	8.6	8.8	414+00	8.6	8.8
414+50	8.3	8.1	415+00	8.3	8.2	415+50	9.0	8.3	416+00	8.7	8.5
416+50	8.6	8.5	417+00	8.2	7.9	417+50	8.4	8.0	418+00	8.8	8.6
418+50	8.2	8.3	419+00	7.8	8.5	419+50	7.1	7.4	420+00	7.6	7.7
420+50	7.7	7.8	421+00	8.1	8.3	421+50	8.5	8.7	422+00	8.8	9.2
422+50	9.2	9.6	423+00	9.3	9.5	423+50	9.5	10.0	424+00	9.7	9.4
424+50	9.4	9.3	425+00	9.4	9.3	425+50	9.6	9.9	426+00	9.4	10.3
426+50	10.1	10.6	427+00	10.0	10.4	427+50	9.7	9.8	428+00	9.4	9.6
428+50	9.0	9.5	429+00	8.5	9.3	429+50	9.0	9.7	430+00	9.3	9.9
430+50	9.2	9.5	431+00	9.2	9.5	431+50	9.1	9.6	432+00	9.3	9.6
432+50	9.0	9.8	433+00	9.7	10.0	433+50	9.9	10.1	434+00	9.3	9.8
434+50	9.5	9.6	435+00	9.3	9.6	435+50	9.5	10.1	436+00	9.5	9.9
436+50	9.4	9.6	437+00	9.9	10.8	437+50	9.5	10.5	438+00	8.9	9.3
438+50	9.2	9.8	439+00	10.0	10.0	439+50	9.7	10.0	440+00	9.4	10.0
440+50	9.7	10.5	441+00	9.5	10.5	441+50	9.1	9.9	442+00	9.9	10.3
442+50	9.9	10.3	443+00	9.9	10.7	443+50	9.8	10.4	444+00	10.3	10.9
444+50	9.8	10.4	445+00	10.3	11.0	445+50	10.3	10.7	446+00	10.2	10.6
446+50	9.8	9.6	447+00	9.1	9.3	447+50	9.1	9.7	448+00	9.0	9.9
448+50	8.7	9.4	449+00	8.4	9.1	449+50	8.4	8.9	450+00	8.3	9.0
450+50	8.6	8.7	451+00	8.6	8.5	451+50	9.2	9.3	452+00	9.0	9.2
452+50	8.8	9.6	453+00	8.6	9.2	453+50	8.9	9.4	454+00	8.6	9.2
454+50	8.8	9.7	455+00	8.3	9.1	455+50	8.1	8.9	456+00	8.3	8.9
456+50	8.1	9.0	457+00	6.0	6.5	457+50	6.4	7.1	458+00	6.5	7.1
458+50	5.9	6.5	459+00	6.3	6.8	459+50	6.3	6.9	460+00	6.6	7.3
460+50	6.3	7.1	461+00	5.9	6.4	461+50	6.1	6.8	462+00	5.9	6.3
462+50	5.7	6.3	463+00	5.6	6.2	463+50	6.2	6.8	464+00	5.8	6.2
464+50	6.2	6.2	465+00	6.0	6.2	465+50	6.0	6.3	466+00	6.0	6.1
466+50	6.4	6.5	467+00	6.7	7.1	467+50	6.6	6.9	468+00	6.5	6.9
468+50	6.5	6.9	469+00	6.6	7.1	469+50	6.8	7.0	470+00	7.0	7.2
470+50	6.3	6.5	471+00	6.2	6.8	471+50	6.0	6.6	472+00	6.2	6.7
472+50	6.2	7.0	473+00	5.9	6.7	473+50	6.2	6.8	474+00	6.1	7.1
474+50	6.2	7.0	475+00	6.1	6.7	475+50	6.5	7.0	476+00	6.2	6.8

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
476+50	6.3	6.6	477+00	7.0	7.4	477+50	6.8	6.8	478+00	6.2	6.1
478+50	6.3	6.5	479+00	6.3	6.0	479+50	5.8	5.8	480+00	5.9	5.7
480+50	5.6	5.7	481+00	6.2	6.0	481+50	6.1	6.0	482+00	6.0	6.3
482+50	6.3	6.2	483+00	6.5	6.3	483+50	6.4	6.3	484+00	6.2	6.3
484+50	6.2	6.3	485+00	6.2	6.5	485+50	5.9	6.4	486+00	6.0	6.0
486+50	6.2	6.3	487+00	6.2	6.2	487+50	6.0	6.0	488+00	5.6	5.7
488+50	6.0	6.3	489+00	6.3	6.3	489+50	6.4	6.4	490+00	6.5	6.4
490+50	6.5	6.7	491+00	6.3	6.6	491+50	6.2	6.6	492+00	6.1	6.1
492+50	5.8	6.0	493+00	6.2	6.4	493+50	6.2	6.4	494+00	5.8	6.1
494+50	6.0	6.0	495+00	5.9	6.2	495+50	6.8	6.0	496+00	6.4	6.3
496+50	6.4	7.0	497+00	6.7	6.8	497+50	5.8	6.1	498+00	6.6	6.8
498+50	6.3	6.6	499+00	6.2	6.3	499+50	5.8	6.0	500+00	6.1	6.4
500+50	6.2	6.5	501+00	6.3	6.5	501+50	6.4	6.7	502+00	6.2	6.2
502+50	6.3	6.3	503+00	6.6	6.0	503+50	5.7	5.9	504+00	5.9	5.8
504+50	5.9	6.0	505+00	5.6	6.3	505+50	5.5	6.0	506+00	5.5	6.5
506+50	5.3	5.9	507+00	5.5	5.9	507+50	5.4	6.0	508+00	5.7	6.3
508+50	5.9	6.4	509+00	5.6	6.5	509+50	5.4	5.9	510+00	5.7	6.2
510+50	5.6	6.3	511+00	5.5	5.9	511+50	5.6	6.0	512+00	5.6	5.8
512+50	5.7	6.0	513+00	5.8	5.9	513+50	5.9	6.1	514+00	5.6	6.0
514+50	6.5	6.5	515+00	6.7	7.1	515+50	5.9	6.3	516+00	6.0	5.8
516+50	6.6	6.6	517+00	5.9	6.3	517+50	6.2	6.4	518+00	5.8	6.2
518+50	6.2	6.5	519+00	6.0	6.2	519+50	5.9	5.9	520+00	5.9	6.0
520+50	6.0	5.8	521+00	5.7	6.1	521+50	5.7	6.2	522+00	6.4	6.6
522+50	5.7	6.0	523+00	6.0	6.3	523+50	5.9	6.1	524+00	6.4	6.6
524+50	6.6	7.0	525+00	6.7	6.9	525+50	6.4	6.2	526+00	6.4	6.6
526+50	6.9	7.0	527+00	6.0	6.6	527+50	6.3	6.6	528+00	6.2	6.1
528+50	6.4	6.2	529+00	7.0	6.7	529+50	6.8	6.5	530+00	7.4	7.5
530+50	7.2	6.6	531+00	7.4	6.7	531+50	7.0	6.9	532+00	6.5	6.7
532+50	6.8	7.1	533+00	6.5	7.0	533+50	6.8	7.1	534+00	7.1	7.5
534+50	7.3	7.2	535+00	7.2	7.1	535+50	7.0	7.1	536+00	7.0	6.8
536+50	7.0	6.6	537+00	6.9	6.5	537+50	6.4	6.6	538+00	6.3	6.2
538+50	6.6	6.8	539+00	6.6	6.3	539+50	6.8	6.9	540+00	6.5	6.5
540+50	6.5	6.8	541+00	7.1	7.3	541+50	7.6	7.1	542+00	7.5	7.7
542+50	7.7	8.0	543+00	7.1	7.3	543+50	6.7	7.0	544+00	6.6	6.4
544+50	6.8	6.8	545+00	6.8	7.1	545+50	6.4	6.8	546+00	6.5	6.3
546+50	7.2	7.3	547+00	6.0	6.1	547+50	5.9	6.2	548+00	6.2	6.6
548+50	6.2	6.2	549+00	6.8	6.8	549+50	6.2	6.3	550+00	6.7	6.7
550+50	6.6	6.7	551+00	6.1	6.4	551+50	6.2	6.6	552+00	6.0	6.4
552+50	6.4	6.8	553+00	6.2	6.3	553+50	6.9	6.6	554+00	6.4	6.6
554+50	6.3	6.6	555+00	6.9	7.4	555+50	6.5	6.6	556+00	6.6	6.8
556+50	6.6	6.6	557+00	6.9	7.3	557+50	6.3	6.8	558+00	5.7	5.6
558+50	6.0	5.9	559+00	6.0	5.7	559+50	6.4	6.2	560+00	6.2	6.4
560+50	7.0	7.5	561+00	6.8	6.7	561+50	6.3	6.5	562+00	6.2	6.2
562+50	6.4	6.3	563+00	6.7	6.8	563+50	6.6	6.9	564+00	6.3	6.8

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
564+50	6.9	7.3	565+00	6.7	6.9	565+50	7.0	7.1	566+00	6.5	6.6
566+50	6.6	6.8	567+00	6.7	6.6	567+50	6.9	7.0	568+00	7.0	7.5
568+50	6.5	7.1	569+00	6.2	6.7	569+50	6.6	7.4	570+00	6.0	6.7
570+50	6.0	6.4	571+00	6.5	7.2	571+50	6.9	7.5	572+00	7.2	7.6
572+50	7.3	7.6	573+00	7.2	7.6	573+50	6.9	7.2	574+00	6.9	8.1
574+50	7.5	7.9	575+00	7.9	8.3	575+50	7.5	7.5	576+00	7.5	7.5
576+50	7.7	8.0	577+00	7.6	7.8	577+50	7.5	7.7	578+00	7.6	7.9
578+50	7.1	7.7	579+00	7.7	8.1	579+50	7.2	7.3	580+00	7.2	7.0
580+50	7.6	7.2	581+00	7.6	7.5	581+50	7.9	7.9	582+00	7.8	7.7
582+50	7.1	7.4	583+00	6.6	7.1	583+50	6.2	6.6	584+00	6.6	6.7
584+50	6.5	6.5	585+00	6.6	6.7	585+50	6.5	6.5	586+00	7.2	7.2
586+50	6.4	6.6	587+00	6.3	6.3	587+50	6.8	6.8	588+00	6.6	6.5
588+50	6.2	6.5	589+00	6.1	6.3	589+50	6.7	7.0	590+00	6.8	7.0
590+50	7.3	7.6	591+00	6.9	7.3	591+50	6.6	7.0	592+00	7.0	7.1
592+50	7.3	7.4	593+00	7.7	8.4	593+50	7.0	7.8	594+00	7.7	8.0
594+50	7.4	7.9	595+00	7.6	8.3	595+50	7.8	7.9	596+00	7.4	7.7
596+50	7.3	7.8	597+00	7.3	7.4	597+50	7.5	7.9	598+00	7.5	7.6
598+50	7.9	8.0	599+00	7.2	7.5	599+50	7.0	7.7	600+00	7.3	7.2
600+50	7.1	7.9	601+00	6.6	7.2	601+50	6.8	7.1	602+00	7.0	7.2
602+50	6.5	7.1	603+00	7.0	7.6	603+50	7.6	7.8	604+00	7.9	8.1
604+50	7.8	8.2	605+00	7.9	8.2	605+50	8.0	7.9	606+00	7.9	8.0
606+50	8.1	8.4	607+00	7.7	8.0	607+50	8.0	8.7	608+00	8.2	8.0
608+50	8.3	8.4	609+00	8.4	9.1	609+50	8.2	8.6	610+00	7.9	7.8
610+50	8.0	8.3	611+00	7.7	8.3	611+50	7.9	8.1	612+00	7.2	7.4
612+50	7.2	7.3	613+00	7.2	7.2	613+50	7.9	7.7	614+00	8.1	8.6
614+50	7.2	7.9	615+00	7.5	8.3	615+50	8.1	8.9	616+00	7.7	8.4
616+50	7.8	8.3	617+00	7.4	7.5	617+50	6.8	7.2	618+00	7.4	8.3
618+50	7.6	7.9	619+00	7.4	8.0	619+50	7.3	8.1	620+00	8.3	8.7
620+50	7.7	8.2	621+00	8.0	8.3	621+50	7.3	7.9	622+00	7.2	7.6
622+50	9.6	9.6	623+00	8.9	9.2	623+50	8.1	8.6	624+00	7.3	7.9
624+50	6.8	7.5	625+00	7.3	8.0	625+50	7.0	7.3	626+00	8.2	8.7
626+50	8.0	8.9	627+00	7.4	8.3	627+50	7.2	8.2	628+00	6.8	7.3
628+50	5.9	6.5	629+00	5.7	6.5	629+50	6.4	6.8	630+00	6.6	7.0
630+50	6.4	6.6	631+00	6.6	7.2	631+50	6.4	6.6	632+00	7.2	7.3
632+50	6.8	7.1	633+00	6.7	6.8	633+50	7.0	7.2	634+00	7.0	7.3
634+50	6.7	6.6	635+00	7.5	7.1	635+50	7.1	6.8	636+00	6.7	6.7
636+50	6.9	6.3	636+99	6.4	6.7						

MaineDOT

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

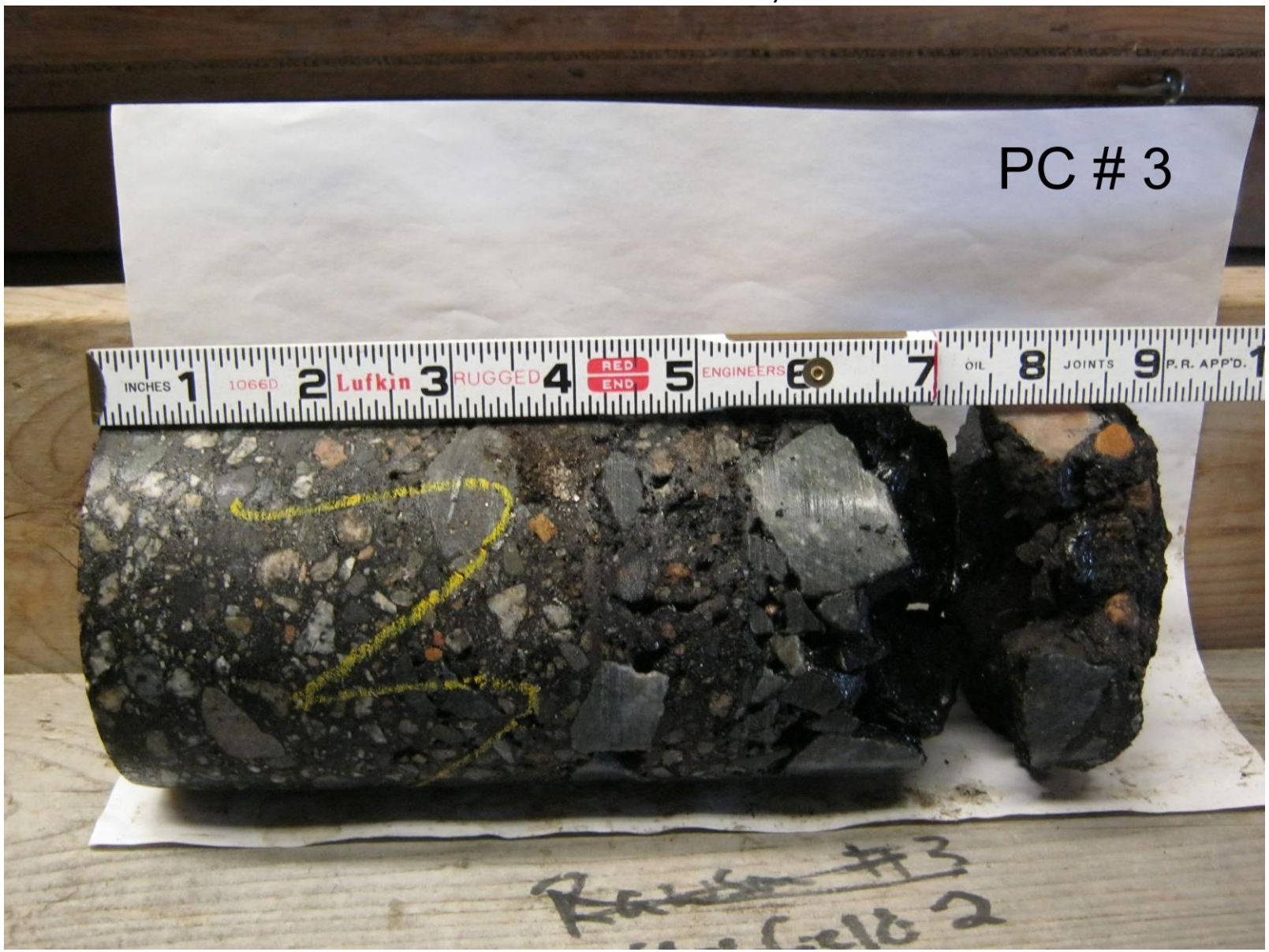
020272.00 - Lebanon, Sanford

Station	Left Offset, ft					CL	Right Offset, ft					Comments
		21	13	9	3							
50+00			2	7.25	6							
140+00			2	7	6.5							
240+00			3.75	6	6							
320+00			2	5.5	6.5							
374+00				6.5								
420+00			4.25	9.25	9.75							
540+00				6.75	6							
600+00				6.75	7.25							

Highlighted areas indicate pavement cores were taken at this location.

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 50+00, 9' LT

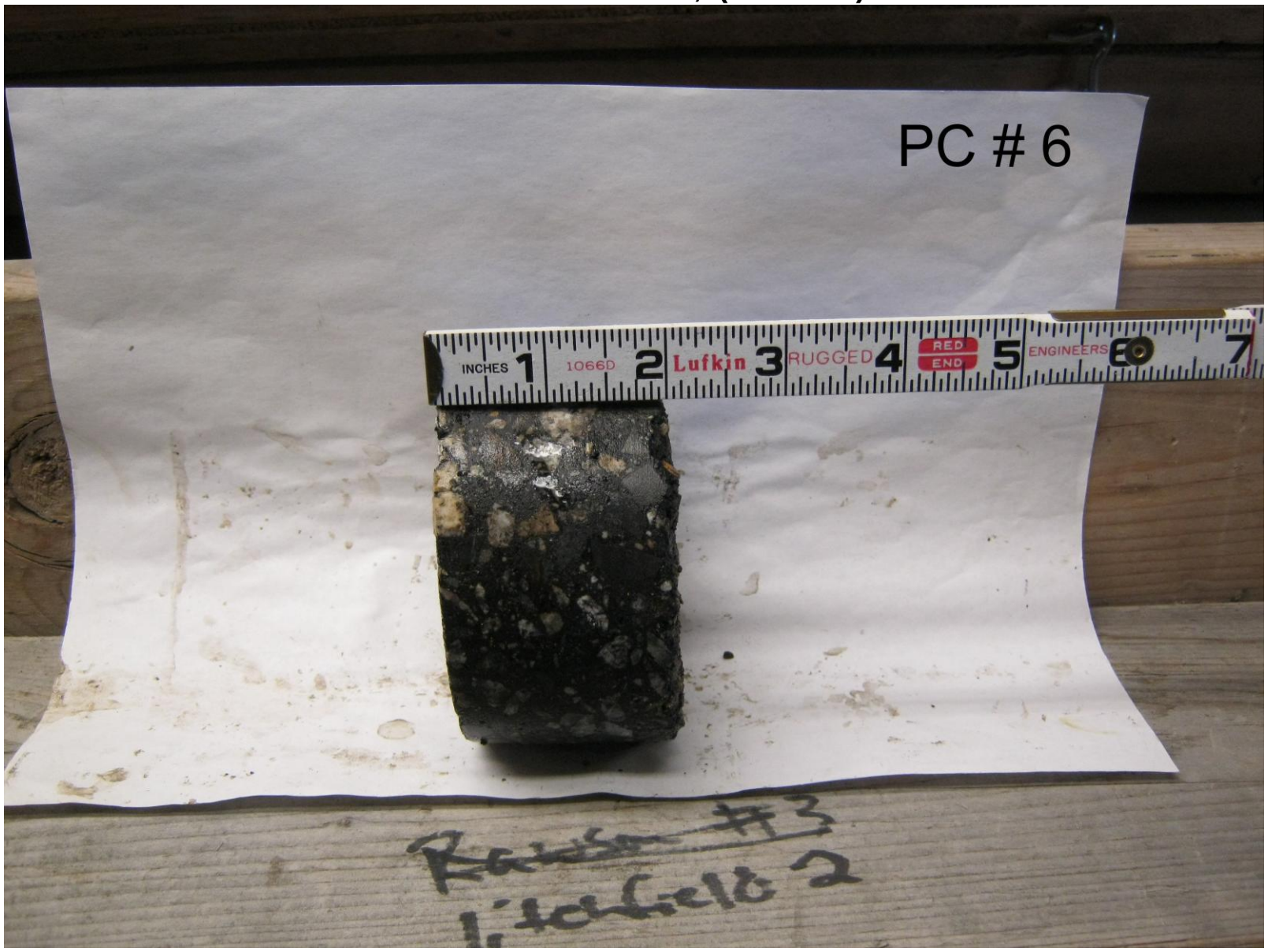


MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 140+00, 9' LT

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 140+00, (Shoulder) 13' LT

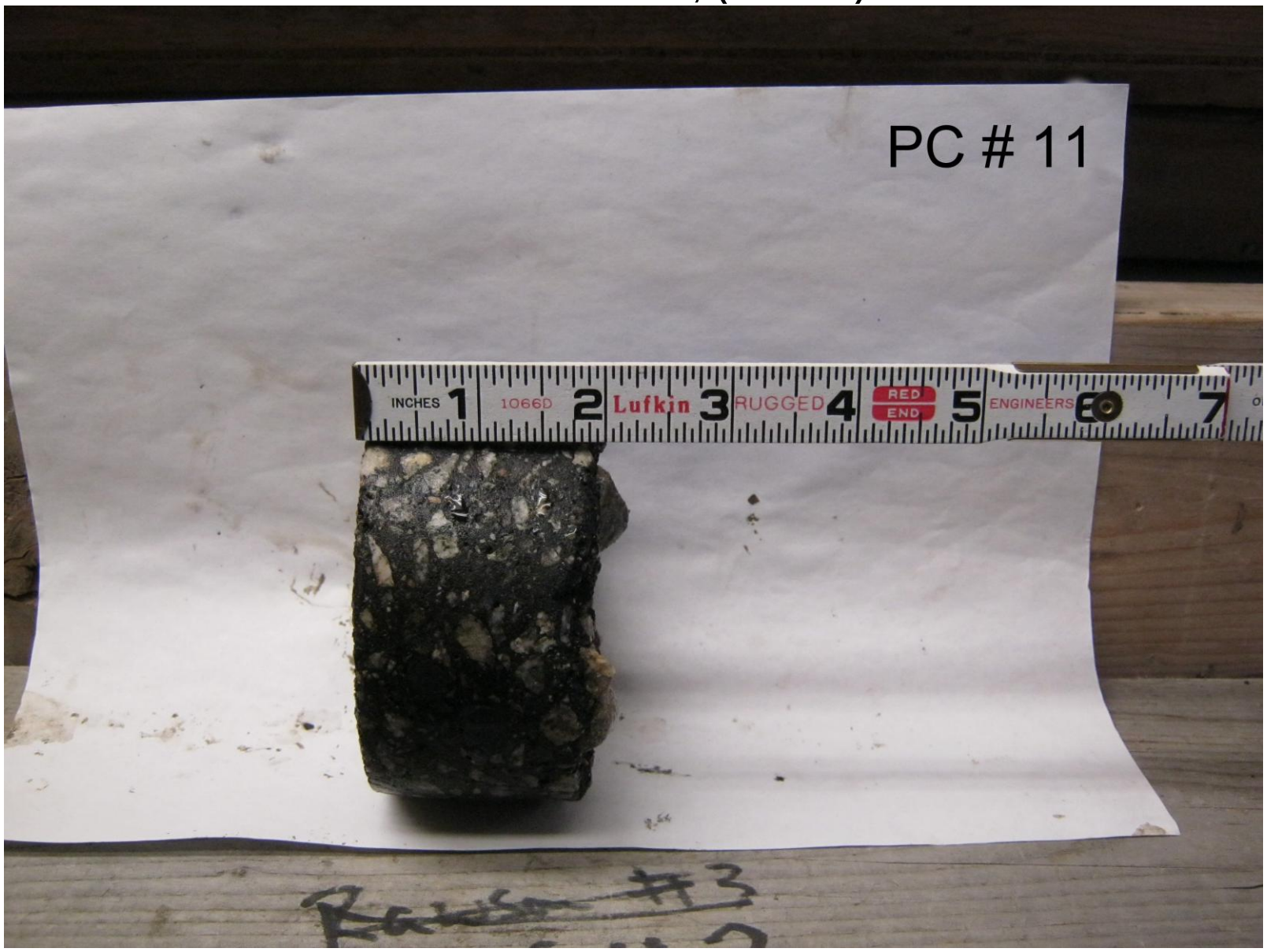


MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 320+00, 9' LT

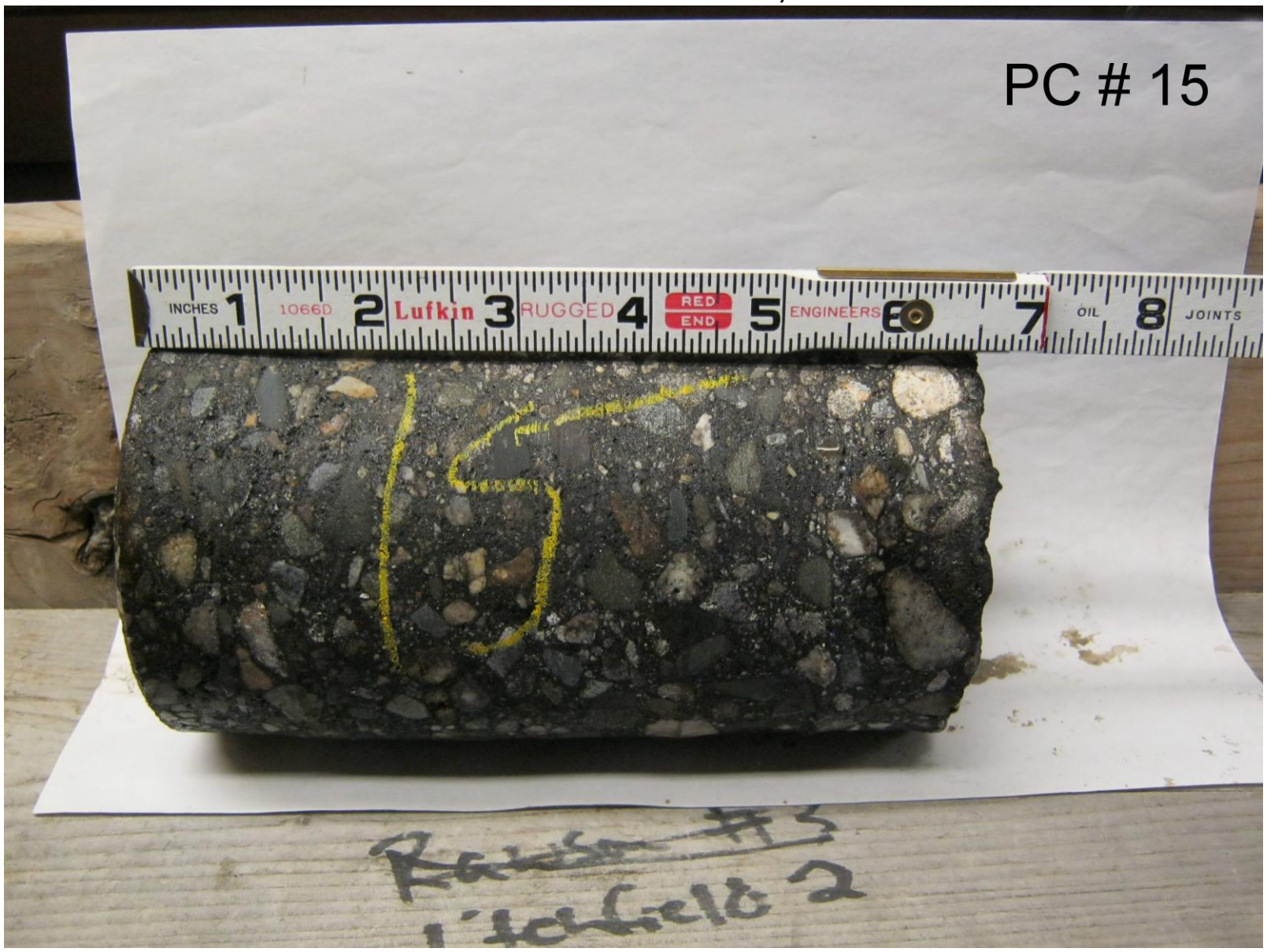
MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 320+00, (Shoulder) 13' LT



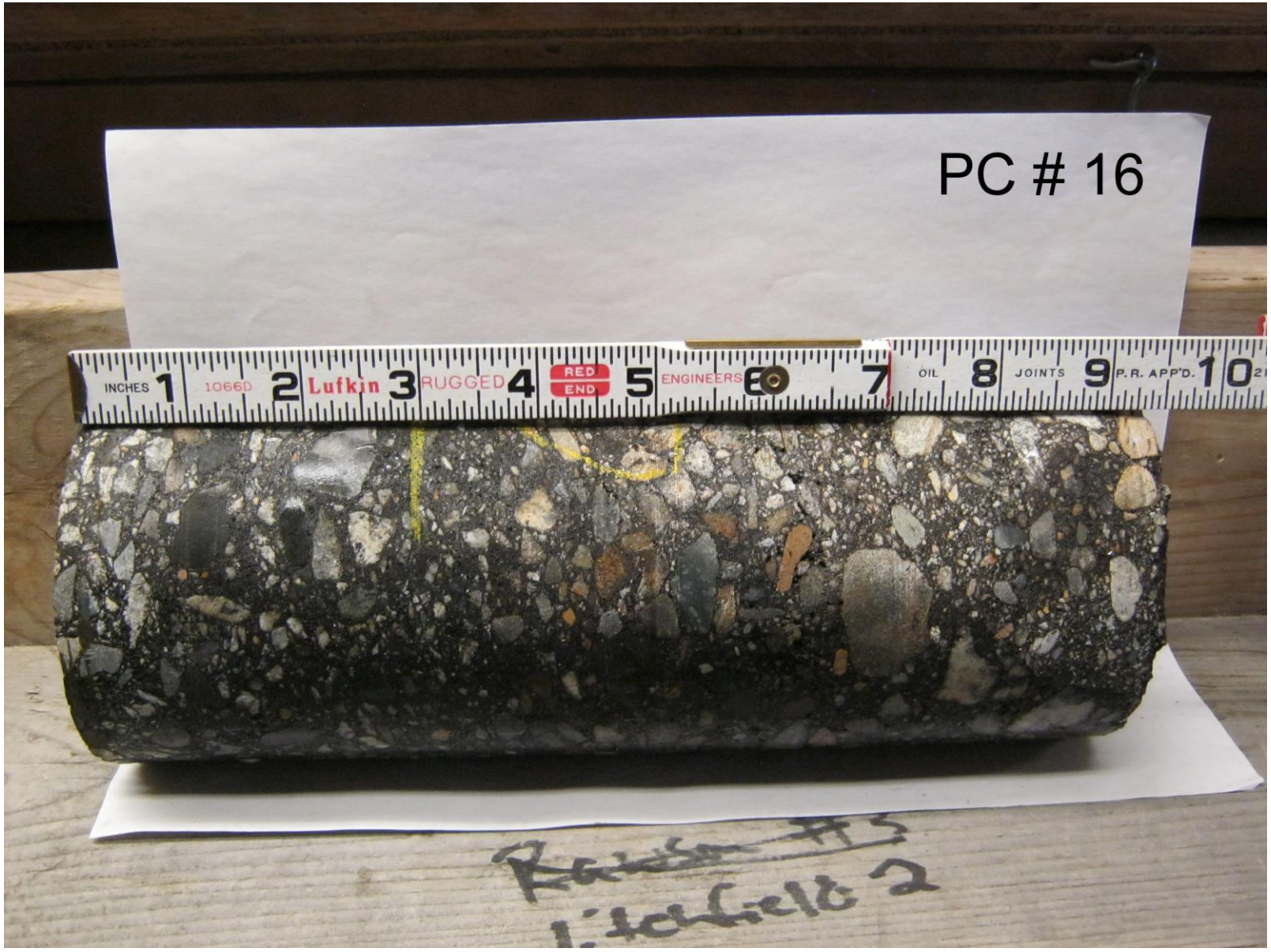
MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 374+00, 9' LT



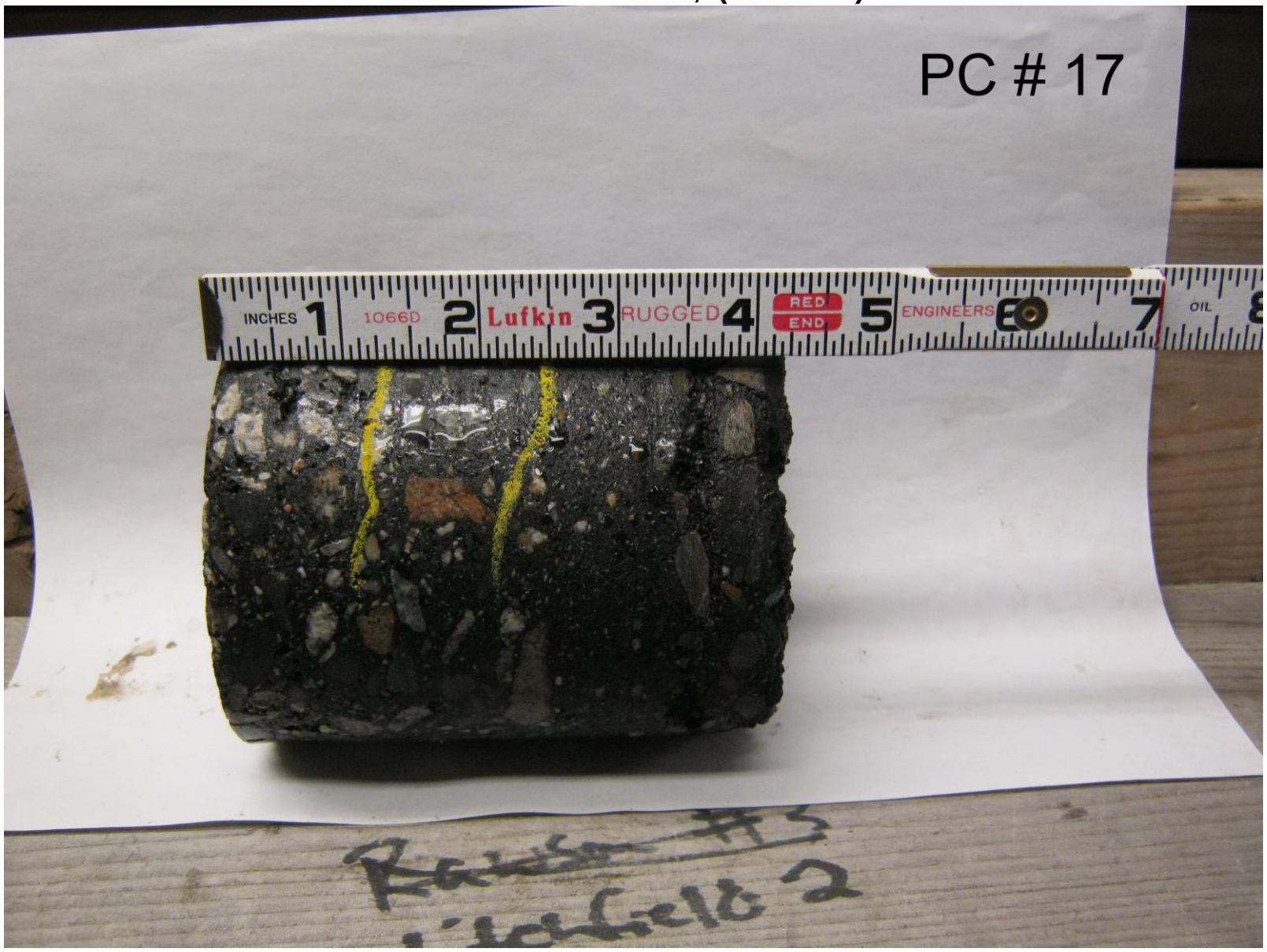
MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 420+00, 9' LT



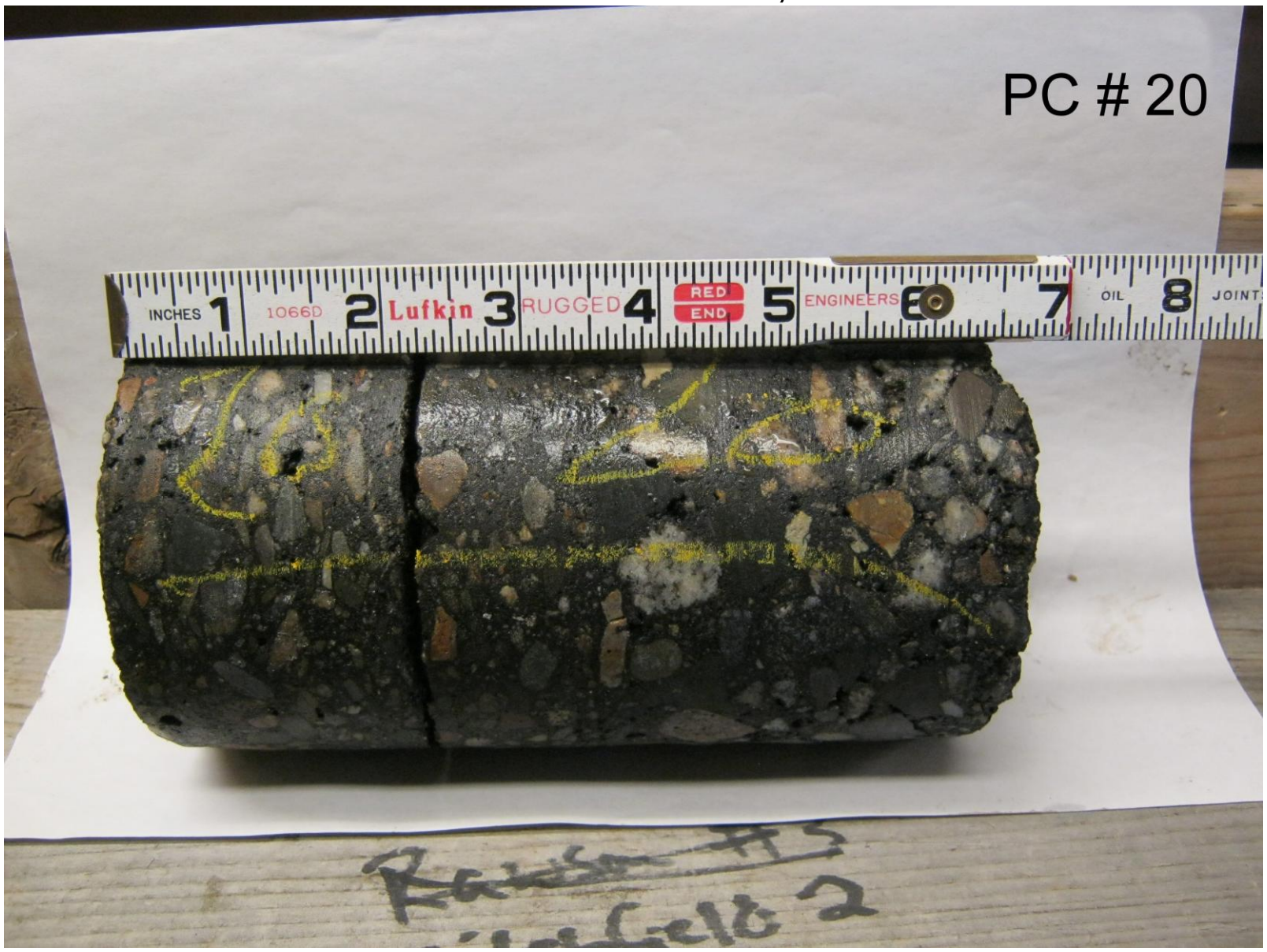
MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 420+00, (Shoulder) 13' LT



MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 540+00, 9' LT



MaineDOT

Ground Penetrating Radar (GPR)
Estimated Pavement Thickness
020272.00 - Lebanon, Sanford

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected at the inner and outer wheel path of the lane at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems, Inc. (GSSI) RADAN7 GPR data processing software. Where available, pavement thickness values from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

Data Confidence Level:

Very Good - Reflection layers appear strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments

Project Manager	Reported By	Test Date	Reported Date
LOVELY, EMORY D	**VOSE, RYAN K**	**11/4/2013**	**2/4/2014**

Lane Tested	Route	PMS Route Code	Analysis Distance, ft.
WESTBOUND TRUCK LANE	**11/202**		**50**

Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
7.7	**6**	**10.3**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
577+30	5.8	6.9	577+80	6.3	7.5	578+30	5.9	6.4	578+80	5.9	6.9
579+30	7.0	7.5	579+80	6.7	7.3	580+30	6.8	7.7	580+80	7.2	8.2
581+30	7.3	8.1	581+80	6.8	8.1	582+30	6.6	7.8	582+80	6.5	8.4
583+30	7.0	8.5	583+80	7.2	7.8	584+30	7.8	8.6	584+80	8.1	8.5
585+30	7.2	8.1	585+80	7.0	7.8	586+30	6.6	7.3	586+80	7.0	7.3
587+30	8.0	7.7	587+80	8.3	8.2	588+30	7.4	7.6	588+80	7.2	8.5
589+30	8.3	8.9	589+80	7.7	8.6	590+30	7.3	8.2	590+80	7.1	8.6
591+30	7.1	8.1	591+80	6.9	8.0	592+30	7.5	7.7	592+80	7.6	8.3
593+30	7.6	7.6	593+80	8.4	8.2	594+30	7.7	7.9	594+80	7.5	8.1
595+30	7.4	7.7	595+80	6.9	8.2	596+30	6.9	7.9	596+80	6.5	7.8
597+30	6.4	8.3	597+80	6.7	8.0	598+30	7.7	8.5	598+80	7.4	8.2
599+30	6.9	8.3	599+80	7.6	7.4	600+30	7.0	7.5	600+80	7.5	8.2
601+30	7.4	7.6	601+80	7.9	7.4	602+30	7.5	7.3	602+80	7.3	7.7

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
603+30	7.3	8.4	603+80	7.3	8.4	604+30	6.9	7.3	604+80	7.9	7.5
605+30	7.6	7.5	605+80	7.8	7.5	606+30	7.3	7.6	606+80	7.4	7.9
607+30	7.4	7.8	607+80	7.5	7.9	608+30	8.0	8.3	608+80	7.9	8.8
609+30	8.7	10.1	609+80	9.5	11.0	610+30	9.3	10.4	610+80	9.3	10.2
611+30	8.1	9.0	611+80	7.8	9.2	612+30	8.7	9.8	612+80	7.9	8.5
613+30	8.2	9.2	613+80	8.3	9.3	614+30	8.4	9.9	614+80	8.2	9.6
615+30	8.2	9.1	615+80	8.1	8.6	616+30	7.7	8.4	616+80	9.3	9.6
617+30	8.7	8.4	617+80	8.3	8.0	618+30	8.1	7.8	618+80	8.1	7.7
619+30	8.7	8.3	619+80	8.0	7.6	620+30	8.1	8.0	620+80	8.3	8.3
621+30	8.0	8.1	621+80	7.7	7.6	622+30	7.2	7.1	622+80	6.6	6.1
623+30	6.1	5.8	623+80	6.4	6.3	624+30	6.2	6.2	624+80	6.6	6.2
625+30	6.4	6.2	625+80	6.3	5.9	626+30	6.8	5.7	626+80	6.1	6.1
627+30	6.1	5.9	627+80	6.8	6.3	628+30	6.5	6.8	628+38	6.4	6.8

MaineDOT

Ground Penetrating Radar (GPR)
Estimated Pavement Thickness
020272.00 - Lebanon, Sanford

Explanation of Ground Penetrating (GPR) Data Collection and Analysis:

GPR data was collected at the inner and outer wheel path of the lane at 1 foot intervals along the entire section. Pavement thickness estimates were developed using Geophysical Survey Systems, Inc. (GSSI) RADAN7 GPR data processing software. Where available, pavement thickness values from Geotechnical borings and/or pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

Data Confidence Level:

Very Good - Reflection layers appear strong throughout much of the project. Layer depths correlate well with known pavement depths obtained from pavement cores.

GPR pavement thickness averages are to be considered for estimating purposes only. Actual pavement thickness may vary.

Additional Comments

Project Manager	Reported By	Test Date	Reported Date
LOVELY, EMORY D	**VOSE, RYAN K**	**11/4/2013**	**2/4/2014**

Lane Tested	Route	PMS Route Code	Analysis Distance, ft.
WESTBOUND TRUCK LANE	**11/202**		**50**

Overall Average Thickness, in.	Overall Minimum Thickness, in.	Overall Maximum Thickness, in.
7.1	**6.5**	**8.7**

***Depth at this location may be impacted by a bridge deck or other pavement anomaly.**

Highlighted inches indicate either the Overall Minimum or Overall Maximum thickness.

Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.	Station	Inner Average Thickness, in.	Outer Average Thickness, in.
531+80	6.6	6.5	532+30	6.8	7.4	532+80	7.0	7.0	533+30	7.0	6.6
533+80	6.6	6.6	534+30	7.1	6.9	534+80	6.8	7.5	535+30	6.8	7.0
535+80	7.2	7.2	536+30	7.2	7.7	536+80	7.1	7.9	537+30	6.8	8.1
537+80	6.9	8.1	538+30	7.9	8.7	538+80	8.7	8.7	539+30	7.9	7.5
539+80	7.5	7.4	540+30	6.9	6.4	540+80	6.8	6.4	541+30	6.8	6.5
541+80	6.6	6.7	542+30	8.0	7.9	542+80	6.5	6.6	543+30	6.6	6.9
543+80	7.1	7.1	544+30	7.3	7.7	544+80	6.9	7.3	545+30	7.1	7.9
545+80	6.7	7.3	546+30	6.5	7.1	546+80	7.5	7.7	547+30	7.1	7.2
547+80	7.1	6.7	548+30	7.3	7.5	548+80	6.6	7.0	549+30	6.8	6.8
549+80	6.7	7.3	550+30	6.7	6.7	550+48	6.9	6.7			

MaineDOT

Ground Penetrating Radar (GPR)

Estimated Pavement Depths at Transverse Locations

020272.00 - Lebanon, Sanford

Station	Left Offset, ft					CL	Right Offset, ft					Comments
			21									
540++00			6.5									Truck Lane

Highlighted areas indicate pavement cores were taken at this location.

MaineDOT

Pavement Cores
020272.00 - Lebanon, Sanford
STATION 540+00, (Truck Lane) 21' LT