

APPENDIX 'A'

GEOTECHNICAL REPORT



Quality Engineering | Valued Relationships

Morrison Hershfield (23-C-04) – Dakota-NB Lagimodiere Coring Program

Prepared for:

Morrison Hershfield
1-59 Scurfield Boulevard
Winnipeg, MB R3Y 1V2
Attention: Ron Bruce, P. Eng

Project Number:

1000 001 31

Date:

February 9, 2023
Final Report



Quality Engineering | Valued Relationships

February 9, 2023

Our File No. 1000 1001 31

Mr. Ron Bruce, P. Eng
Morrison Hershfield
1-59 Scurfield Boulevard
Winnipeg, Manitoba, R3Y 1V2

RE: Road Investigation Report for the (23-C-04) – Dakota-NB Lagimodiere Coring Program

TREK Geotechnical Inc. is pleased to submit our report for the road investigation for the (23-C-04) – Dakota-NB Lagimodiere Coring Program.

Please contact the undersigned if you have any questions. Thank you for the opportunity to serve you on this assignment.

Sincerely,

TREK Geotechnical Inc.
Per:

A handwritten signature in blue ink, appearing to read "N. Ferreira".

Nelson John Ferreira, Ph.D., P. Eng.
Geotechnical Engineer, Principal
Tel: 204.975.9433 ext. 103

cc: Angela Fidler-Kliewer C.Tech. (TREK Geotechnical)

Revision History

Revision No.	Author	Issue Date	Description
0	AFK	February 9, 2023	Final Report

Authorization Signatures

Prepared By:


Angela Fidler-Kliewer, C. Tech.
Manager of Lab and Field Services



Reviewed By:

Nelson John Ferreira, Ph.D., P.Eng.
Geotechnical Engineer



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1.0 Introduction

This report summarizes the results of the road investigation completed for the (23-C-04) Dakota-NB Lagimodiere Coring Program. The investigation was carried out on Northbound Lagimodiere between Fermor Ave and Cottonwood Rd and Dakota Ave between Bishop Grandin Blvd and St Mary's Rd. Information collected describes the asphalt and concrete pavement structure. The investigation was carried out in accordance with the City of Winnipeg RFP No. 526-2022.2.

2.0 Road Investigation

The investigation included coring of pavement at 35 locations. Morrison Hershfield selected the investigation locations as shown on Figures 01 to 05 (attached).

Pavement coring was completed between January 30th and February 3rd, 2023. The pavement was cored by Tyler Green of TREK Geotechnical Inc. (TREK) using a portable coring press equipped with a hollow 100 mm diameter diamond core drill bits. Core samples were also retrieved and logged at TREK's material testing laboratory. A summary table of the pavement cores and photographs of the cores are included in Appendix A and B.

The locations noted on the summary tables in Appendix A and B are based on the core locations relative to the nearest address or intersection, or as described by client and measured distances from the edge of pavement. UTM coordinates measured using a handheld GPS unit are also provided.

3.0 Closure

The information provided in this report is in accordance with current engineering principles and practices (Standard of Practice). The findings of this report were based on information provided (field investigation).

All information provided in this report is subject to our standard terms and conditions for engineering services, a copy of which is provided to each of our clients with the original scope of work, or a mutually executed standard engineering services agreement. If these conditions are not attached, and you are not already in possession of such terms and conditions, contact our office and you will be promptly provided with a copy.

This report has been prepared by TREK Geotechnical Inc. (the Consultant) for the exclusive use of Morrison Hershfield (the Client) and their agents for the work product presented in the report. Any findings or recommendations provided in this report are not to be used or relied upon by any third parties, except as agreed to in writing by the Client and Consultant prior to use.

Figures

Z:\Projects\1000 Soils Lab\Lab Projects\1000-001 Morrison Hershfield\1000-001-31 (23-C-04) - Dakota-NB Lagimodiere Coring Program\3 Survey and Dwg\3.4 CAD\3.4.3 Working Folder\Fig 01 to 03 Dakota - Lag PC 0_B 1000-001-31.dwg



LEGEND:

◆ PAVEMENT CORE (TREK, 2023)

NOTES:

1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021).

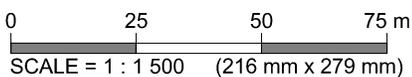
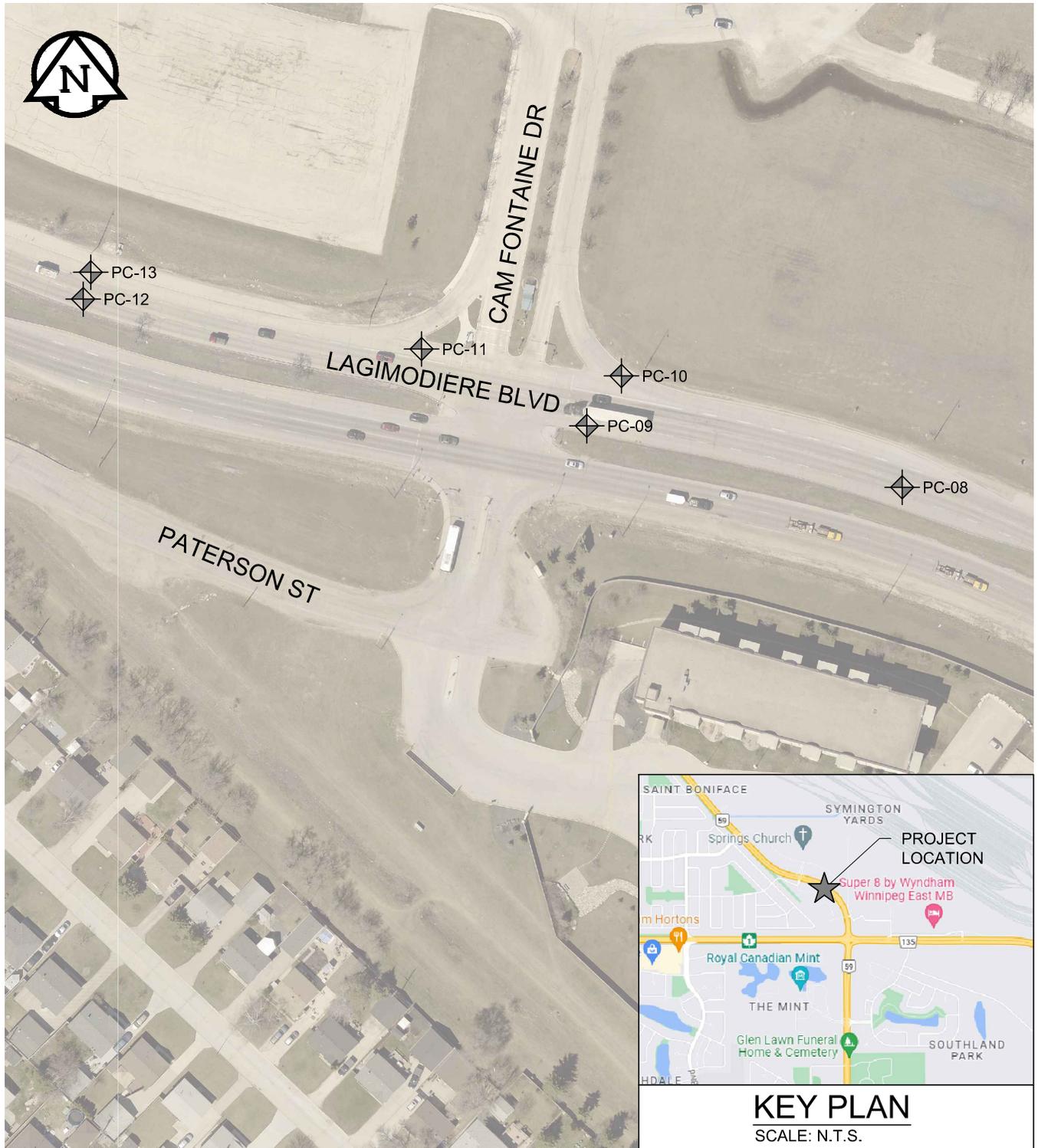


Figure 01
Pavement Core Location Plan

Z:\Projects\1000 Soils Lab\Lab Projects\1000-001 Morrison Hershfield\1000-001-31 (23-C-04) - Dakota-NB Lagimodiere Coring Program\3 Survey and Dwg\3.4 CAD\3.4.3 Working Folder\Fig 01 to 03 Dakota - Lag PC 0_B 1000-001-31.dwg



LEGEND:

◆ PAVEMENT CORE (TREK, 2023)

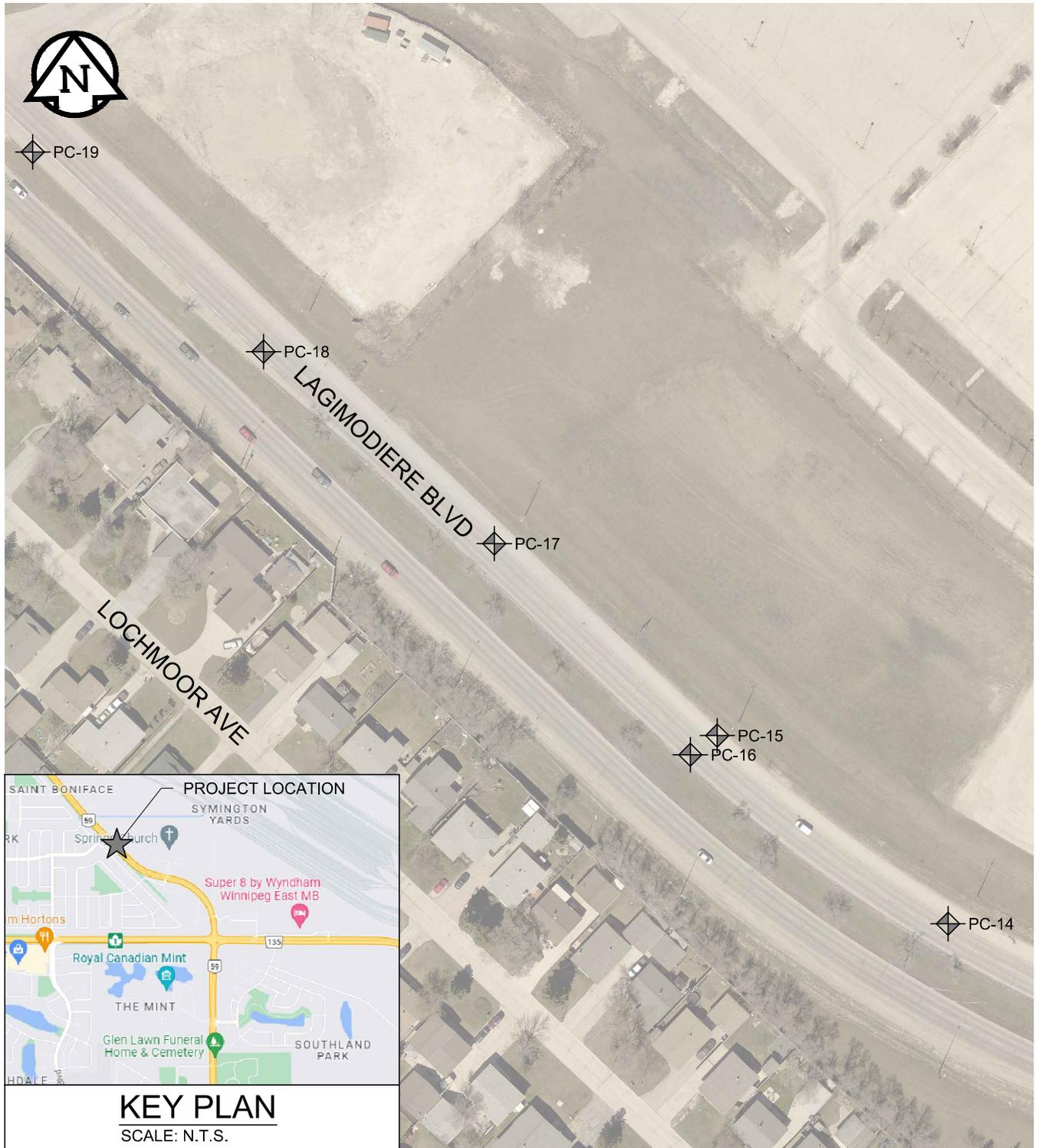
NOTES:

1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021).

0 25 50 75 m
SCALE = 1 : 1 500 (216 mm x 279 mm)

Figure 02
Pavement Core Location Plan

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LEGEND:

◆ PAVEMENT CORE (TREK, 2023)

NOTES:

1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021).

Figure 03

Pavement Core Location Plan

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LEGEND:

◆ PAVEMENT CORE (TREK, 2023)

NOTES:

1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021).

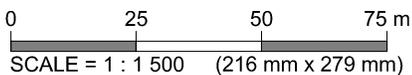
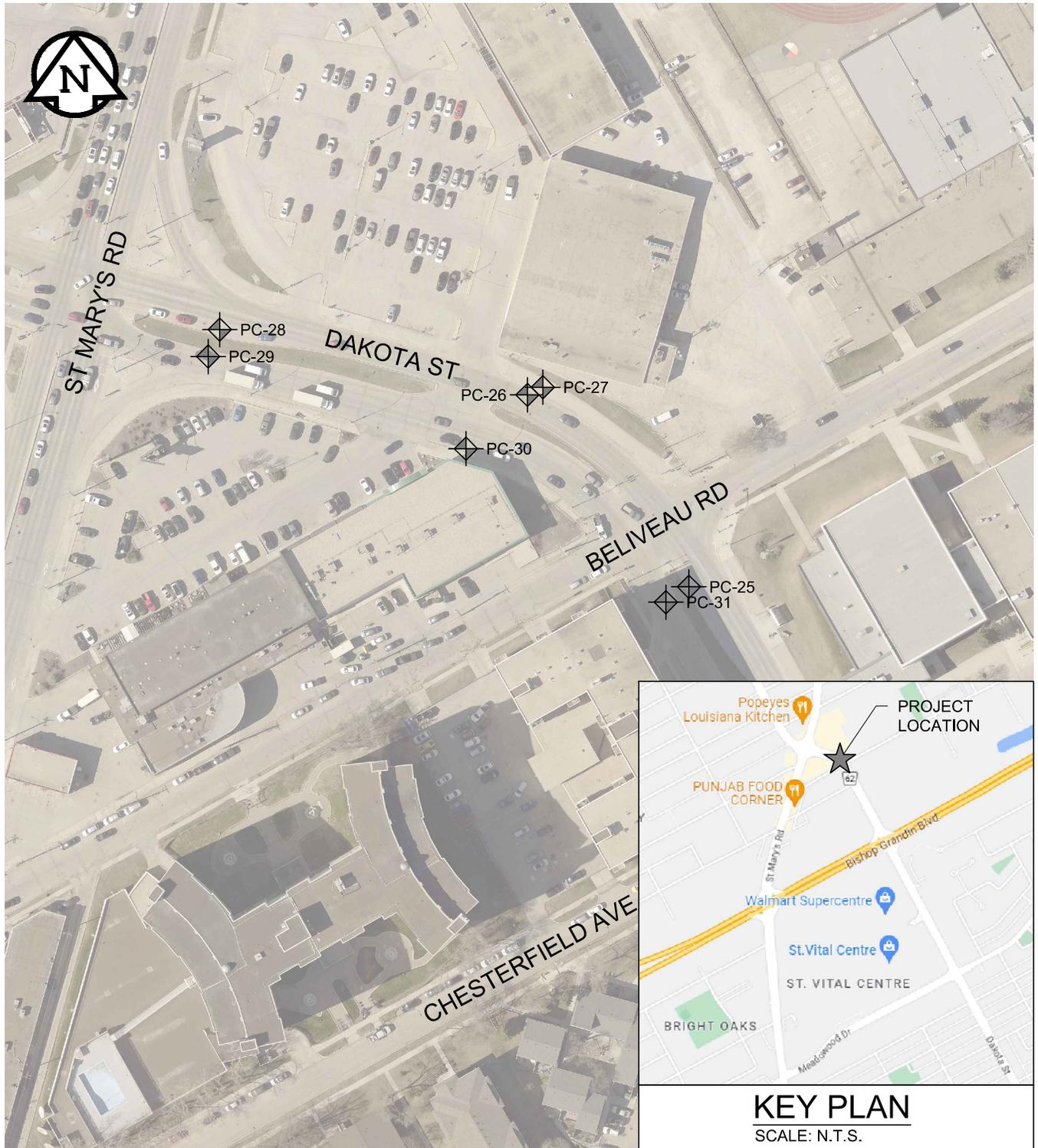


Figure 04
Pavement Core Location Plan

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LEGEND:

◆ PAVEMENT CORE (TREK, 2023)

NOTES:

1. AERIAL IMAGERY FROM CITY OF WINNIPEG (2021).

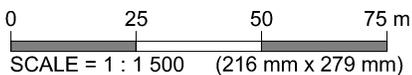


Figure 05
Pavement Core Location Plan

Appendix A
Summary Table and Photographs of Pavement Core Samples
Lagimodiere Blvd- Fermor Ave to Cottonwood Rd



(23-C-04) - Dakota-NB Lagimodiere Coring Program
Lagimodiere Blvd Northbound lane - Fermor Ave to Cottonwood Rd

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-01	UTM : 5524540 m N, 0640204 m E ; : Located 1.5 m West of curb, Petro Canada. Shoulder Northbound.	Asphalt	105	Concrete	N/A
PC23-02	UTM : 5524577 m N, 0640192 m E ; : Located 1.4m East of curb, 8m South of Leveque St. Median Lane Northbound.	Asphalt	90	Concrete	230
PC23-03	UTM : 5524659 m N, 0640171 m E ; : Located 1.3m West of curb, 25m North of Mazenod Rd. Gutter Lane Northbound.	Asphalt	60	Concrete	190
PC23-04	UTM : 5524720 m N, 0640136 m E ; : Located 1.2m West of curb, at existing light pole. Gutter Lane Northbound.	Asphalt	65	Concrete	180
PC23-05	UTM : 5524770 m N, 0640086 m E ; : Located 1.9m East of curb, at existing light pole. Median Lane Northbound.	Asphalt	60	Concrete	195
PC23-06	UTM : 5524777 m N, 0640091 m E ; : Located 1.7m West of curb, at existing light pole. Shoulder Northbound.	Asphalt	65	Concrete	N/A
PC23-07	UTM : 5524820 m N, 0640027 m E ; : Located 1.5m West of curb, at existing light pole. Gutter Lane Northbound.	Asphalt	65	Concrete	190
PC23-08	UTM : 5524850 m N, 0639954 m E ; : Located 1.4m East of curb, 100m from intersection. Turn Lane Northbound.	Asphalt	110	Concrete	175
PC23-09	UTM : 5524866 m N, 0639872 m E ; : Located 1.7m East of curb, 9m South of bullnose. Turn Lane Northbound.	Asphalt	85	Concrete	170
PC23-10	UTM : 5524879 m N, 0639881 m E ; : Located 1.3m West of curb, at existing light pole. Turn Lane Northbound.	Asphalt	80	Concrete	180
PC23-11	UTM : 5524886 m N, 0639829 m E ; : Located 1.9m West of curb, 2m South of bullnose. Gutter Lane Northbound.	Asphalt	105	Concrete	220
PC23-12	UTM : 5524899 m N, 639741 m E ; : Located 1.7m East of curb, 3m from existing light pole. Median Lane Northbound.	Asphalt	105	Concrete	200
PC23-13	UTM : 5524906 m N, 0639743 m E ; : Located 2.2m West of curb, 3m from existing light pole. Merge Lane Northbound.	Asphalt	130	Concrete	230
PC23-14	UTM : 5524936 m N, 0639670 m E ; : Located 1.0m West of curb, at existing light pole. Gutter Lane Northbound.	Asphalt	160	Concrete	200
PC23-15	UTM : 5524985 m N, 0639610 m E ; : Located 1.6m West of curb, at existing light pole. Shoulder Northbound.	Asphalt	140	Concrete	N/A
PC23-16	UTM : 5524980 m N, 0639603 m E ; : Located 1.7m East of curb, at existing light pole. Median Lane Northbound.	Asphalt	95	Concrete	205



(23-C-04) - Dakota-NB Lagimodiere Coring Program
Lagimodiere Blvd Northbound lane - Fermor Ave to Cottonwood Rd

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-17	UTM : 5525035 m N, 0639552 m E; : Located 1.5m West of curb, at existing light pole. Gutter Lane Northbound.	Asphalt	95	Concrete	205
PC23-18	UTM : 5525085 m N, 0639492 m E; : Located 3.5m East of curb, at turn lane start and existing light pole. Median Lane Northbound.	Asphalt	100	Concrete	220
PC23-19	UTM : 5525137 m N, 639432 m E; : Located 1.4m East of curb, 8m South of bullnose. Turn Lane Northbound.	Asphalt	85	Concrete	225



Photo 1: Pavement Core Sample PC-01

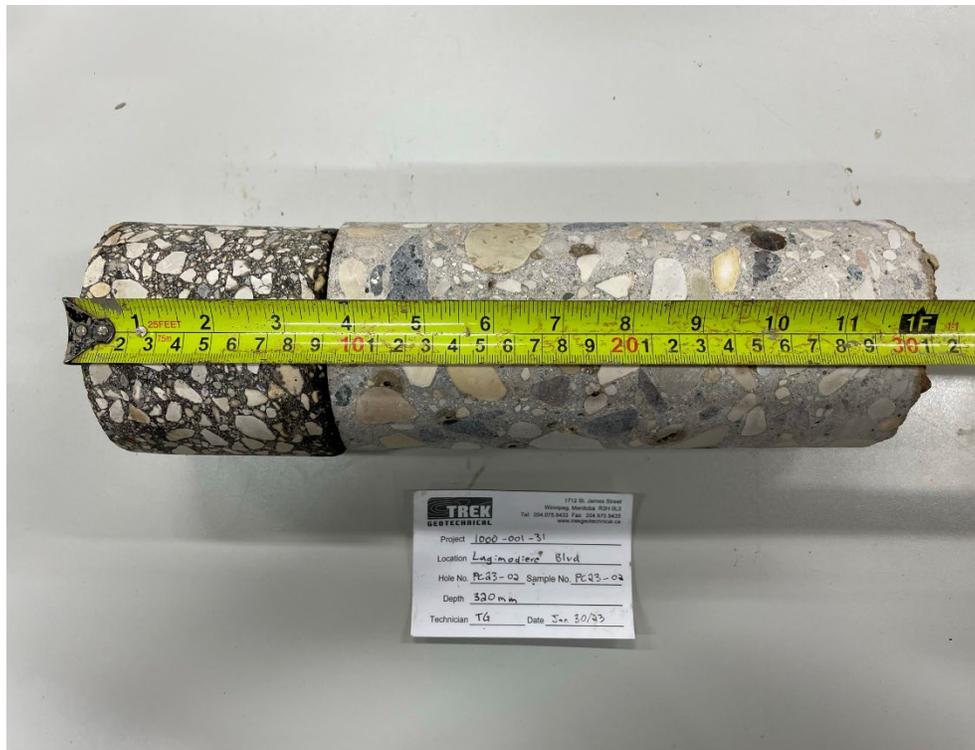


Photo 2: Pavement Core Sample PC-02



Photo 3: Pavement Core Sample PC-03



Photo 4: Pavement Core Sample PC-04



Photo 5: Pavement Core Sample PC-05



Photo 6: Pavement Core Sample PC-06



Photo 7: Pavement Core Sample PC-07



Photo 8: Pavement Core Sample PC-08



Photo 9: Pavement Core Sample PC-09



Photo 10: Pavement Core Sample PC-10



Photo 11: Pavement Core Sample PC-11



Photo 12: Pavement Core Sample PC-12



Photo 13: Pavement Core Sample PC-13

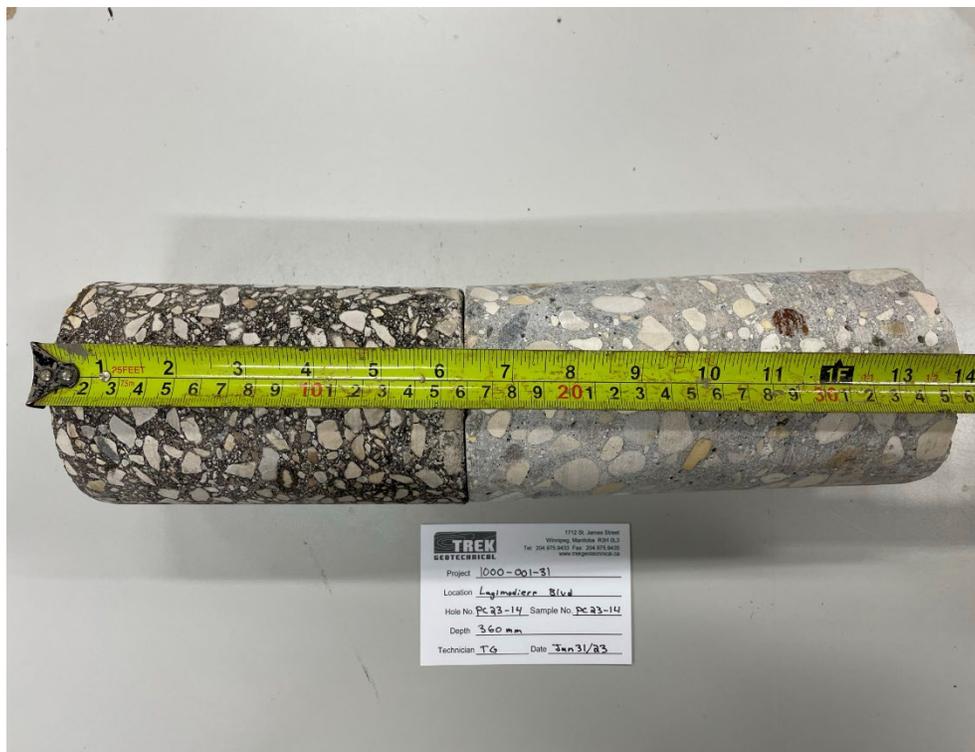


Photo 14: Pavement Core Sample PC-14



Photo 15: Pavement Core Sample PC-15



Photo 16: Pavement Core Sample PC-16



Photo 17: Pavement Core Sample PC-17

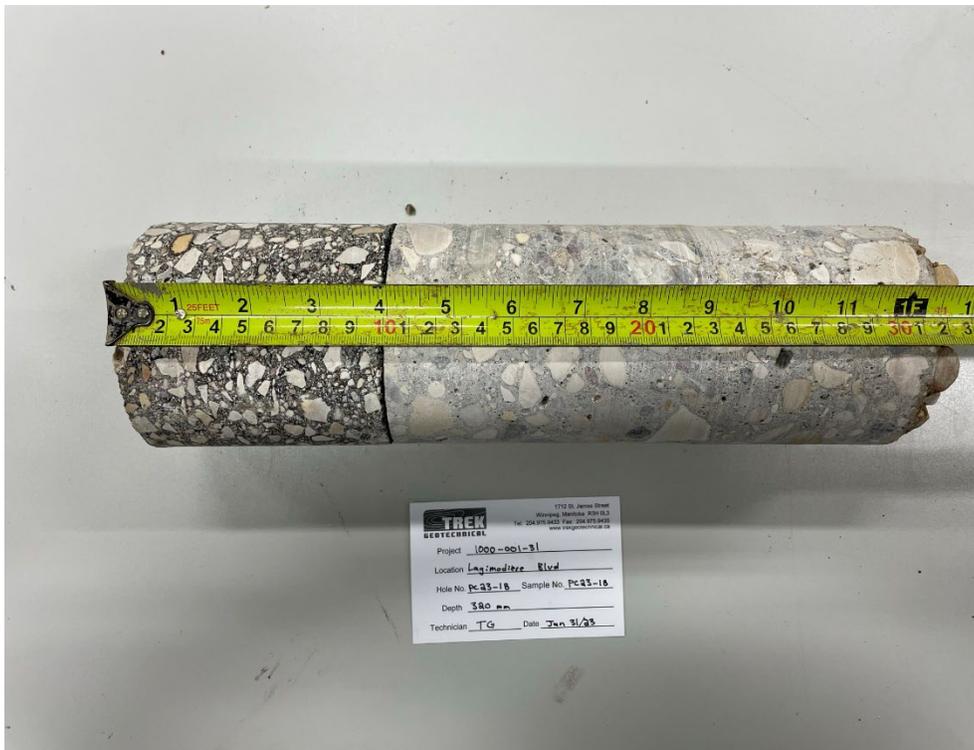


Photo 18: Pavement Core Sample PC-18



Photo 19: Pavement Core Sample PC-19

Appendix B
Summary Table and Photographs of Pavement Core Samples
Dakota Ave- Bishop Grandin Blvd to St Mary's Rd



(23-C-04) - Dakota-NB Lagimodiere Coring Program

Dakota Ave Northbound and Southbound lanes - Bishop Grandin Blvd to St Mary's Rd

Pavement Core No.	Pavement Core Location	Pavement Surface		Pavement Structure Material	
		Type	Thickness (mm)	Type	Thickness (mm)
PC23-20	UTM : 5521774 m N, 0635997 m E; : Located 1.7 m West of East curb, at merge exit. Gutter Lane Northbound.	Asphalt	70	Concrete	205
PC23-21	UTM : 5521832 m N, 0635960m E; : Located 1.5 m West of East curb, 25m South of existing street light. Gutter Lane Northbound.	Asphalt	65	Concrete	210
PC23-22	UTM : 5521891 m N, 0635921 m E; : Located 1.4 m East of West curb, 3m North of existing street light. Median Lane Northbound.	Asphalt	55	Concrete	220
PC23-23	UTM : 5521948 m N, 0635894 m E; : Located 1.3 m West of East curb, 3m South of parking lot entrance. Gutter Lane Northbound.	Asphalt	70	Concrete	195
PC23-24	UTM : 5521894 m N, 0635929 m E; : Located 1.0 m East of curb, 1m South of existing light pole. Multi use path Northbound.	Asphalt	90	Concrete	N/A
PC23-25	UTM : 5522012 m N, 0635848 m E; : Located 1.3 m East of West curb, 7m South of bullnose. Turn Lane Northbound.	Asphalt	65	Concrete	225
PC23-26	UTM : 5522062 m N, 0635806 m E; : Located 1.3 m South of North curb, 7m South of existing light pole. Gutter Lane Northbound.	Asphalt	35	Concrete	205
PC23-27	UTM : 5522064 m N, 0635810 m E; : Located 1.0 m North of curb , 7m South of existing light pole. Multi use path Northbound.	Asphalt	75	Concrete	N/A
PC23-28	UTM : 5522079m N, 0635726 m E; : Located 1.5 m North of South curb, at taper of merge lane. Turn Lane Northbound.	Asphalt	100	Concrete	185
PC23-29	UTM : 5522072 m N, 0635723 m E; : Located 1.5 m South of Northt curb, 30m from St Mary's intersection. Gutter Lane Southbound.	Asphalt	55	Concrete	170
PC23-30	UTM : 5522048 m N, 0635790 m E; : Located 1.5 m North of South curb, 2m West of existing light pole. Gutter Lane Southbound.	Asphalt	55	Concrete	195
PC23-31	UTM : 5522008 m N, 0635842 m E; : Located 1.3 m West of East curb, 5m South of bullnose. Median Lane Southbound.	Asphalt	55	Concrete	205
PC23-32	UTM : 5521968 m N, 0635861 m E; : Located 1.5 m East of West curb, 2m North of existing light pole. Gutter Lane Southbound.	Asphalt	45	Concrete	190
PC23-33	UTM : 5521883 m N, 0635911 m E; : Located 1.5 m West of East curb, 3m North of bullnose. Median Lane Southbound.	Asphalt	60	Concrete	220
PC23-34	UTM : 5521822 m N, 0635944 m E; : Located 1.3 m East of West curb, 25m South of existing light pole. Turn Lane Southbound.	Asphalt	65	Concrete	210
PC23-35	UTM : 5521779 m N, 0635972 m E; : Located 5.5 m East of West curb, inline with bullnose. Gutter Lane Southbound.	Asphalt	70	Concrete	205



Photo 1: Pavement Core Sample PC-20



Photo 2: Pavement Core Sample PC-21



Photo 3: Pavement Core Sample PC-22



Photo 4: Pavement Core Sample PC-23



Photo 5: Pavement Core Sample PC-24



Photo 6: Pavement Core Sample PC-25



Photo 7: Pavement Core Sample PC-26



Photo 8: Pavement Core Sample PC-27



Photo 9: Pavement Core Sample PC-28



Photo 10: Pavement Core Sample PC-29



Photo 11: Pavement Core Sample PC-30



Photo 12: Pavement Core Sample PC-31



Photo 13: Pavement Core Sample PC-32



Photo 14: Pavement Core Sample PC-33



Photo 15: Pavement Core Sample PC-34



Photo 16: Pavement Core Sample PC-35