

APPENDIX 'A'

GEOTECHNICAL REPORT



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"Engineering and Testing Solutions That Work for You"

Date: May 7, 2024

File No.: 23-035-03

Client: WSP Canada Inc.

Address: 1600 Buffalo Place
Winnipeg, Manitoba
R3T 6B8

Attention: Scott Suderman, P.Eng.

Project: Bishop Grandin Boulevard (Abinojii Mikanah) Pavement Renewals, Winnipeg,
Manitoba Canada

Introduction

ENG-TECH Consulting Limited (ENG-TECH) was retained by WSP Canada Inc. (WSP) to complete a geotechnical investigation on 2 test holes located in the shoulder on the Westbound side of Bishop Grandin Boulevard (Abinojii Mikanah) in Winnipeg, Manitoba, Canada.

Scope of Work

The scope of work entailed drilling 2 test holes through the existing shoulder structure, determining moistures in accordance with Appendix B – Site Investigation Requirements for Public Works Street Projects and providing a letter outlining the work conducted, including a site plan showing the test hole locations and test hole summary logs.

Field Program

ENG-TECH conducted the drilling program on April 19, 2024, at locations determined by WSP. The test holes were drilled using a Lone Star T1A+ drill rig equipped with 100 mm diameter solid stem continuous flight augers owned and operated by ENG-TECH. The test holes were advanced to 2.5 m below the pavement structure on Westbound Bishop Grandin Boulevard (Abinojii Mikanah) at the locations shown Test Hole Location Plan Figure 1. Soil samples were collected off the auger flights, as measured from the bottom of the pavement structure, at depth intervals of 0.6, 0.9, 1.2, 1.6, 2.0, and 2.5 m as specified in the Site Investigation Requirements for Public Works Street Projects. After sample collection the test holes were backfilled with soil auger cuttings and granular fill. ENG-TECH repaired the core apertures with a City of Winnipeg approved material (cold mix asphalt) that has been accepted on previous street renewal projects.

Laboratory Program

The soil samples collected were retained for testing in ENG-TECH'S laboratory. The moisture content of each sample depth collected was determined. The moisture content results are summarized in Table 1 and in the attached test hole logs.

The pavement core thicknesses were measured and photographed. Photographs of each core are shown in the attached Photographs 1 and 2.

Closure

ENG-TECH trusts this is all the information required. If you have any questions, please contact the undersigned.

Sincerely,
ENG-TECH Consulting Limited



Darci Babisky, C.E.T.
Operations Manager – Laboratory

Email: WSP Canada Inc. Contact Group

Enclosures:

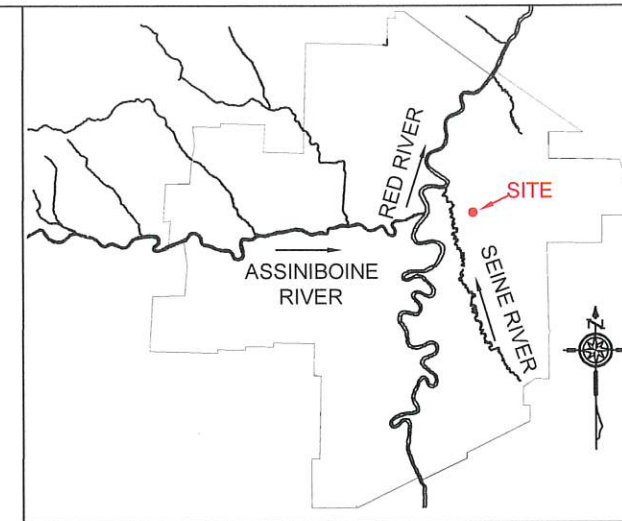
- Table 1 – Summary of Pavement Structure – WB Bishop Grandin Boulevard
- Figure 1 – Test Hole Location Plan
- Specimen Photographs (1 page)
- Test Hole Logs (2 pages)




Table 1
 Summary of Pavement Structure
 Westbound Bishop Grandin Boulevard

Test Hole	GPS Coordinates		Pavement Surface		Pavement Structure Material		Subgrade Description	Sample Depth (m)	Moisture Content (%)
	UTM (N)	14U (E)	Type	Depth (mm)	Type	Depth (mm)			
TH1	5520738	634189	Asphalt	131	Granular Fill	275	Clay	0.6	27.2
								0.9	32.2
								1.2	38.8
								1.6	41.2
								2.0	48.0
TH2	5521041	634728	Asphalt	77	Granular Fill	720	Clay	0.6	9.4
								0.9	26.3
								1.2	30.8
								1.6	26.8
								2.0	26.9
								2.5	24.9

TEST HOLE & PAVEMENT CORE LOCATION TABLE			
HOLE NUMBER	CORING COMPLETED ON APRIL 19, 2024		LOCATION DESCRIPTIONS
	UTM COORDINATE		
	UTM	14U	
TH #1	5522732	639137	WB SHOULDER
TH #2	5522746	639698	WB SHOULDER



LEGEND
 TH TEST HOLE



NOTE:



NO.	DATE	ISSUE / REVISION
0	Apr. 2024	Report

ENG-TECH
 CONSULTING LIMITED
 420 Turenne Street
 Winnipeg, MB
 R2J 3W8
 Phone: (204) 233-1694
 Fax: (204) 235-1579

ENG. STAMP:


CLIENT:
 WSP CANADA INC.

PROJECT:
 BISHOP GRANDIN BOULEVARD
 (ABINOJII MIKANAH) PAVEMENT
 RENEWALS, WINNIPEG, MANITOBA,
 CANADA

DWG DESCRIPTION:
 TEST HOLE LOCATION PLAN

SCALE:
 N.T.S.

DRAWN BY: SZ DATE: APRIL 2024

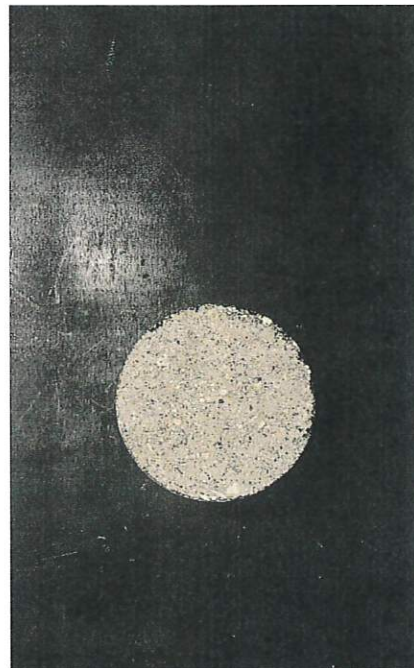
FILE No.: 23-035-03 CLIENT DWG/FIG. No.:

ENG-TECH DWG/FIG. No.: 1 of 1 NO.:

Photograph 1 to 4: Specimens from Bishop Grandin Boulevard, Westbound Shoulder Lane



TH1
Full Depth of Pavement
Ø = 150 mm



TH 1
Top of Asphalt Pavement
Ø = 150 mm



TH2
Full Depth of Pavement
Ø = 150 mm



TH 2
Top of Asphalt Pavement
Ø = 150 mm





Test Hole #: TH1

Client: WSP Canda Inc.

Site: WB Abinojii Mikanah Blvd, Winnipeg, MB

Location: See Figure 1

Project: Bishop Grandin Boulevard (Abinojii Mikanah) Pavement Renewals

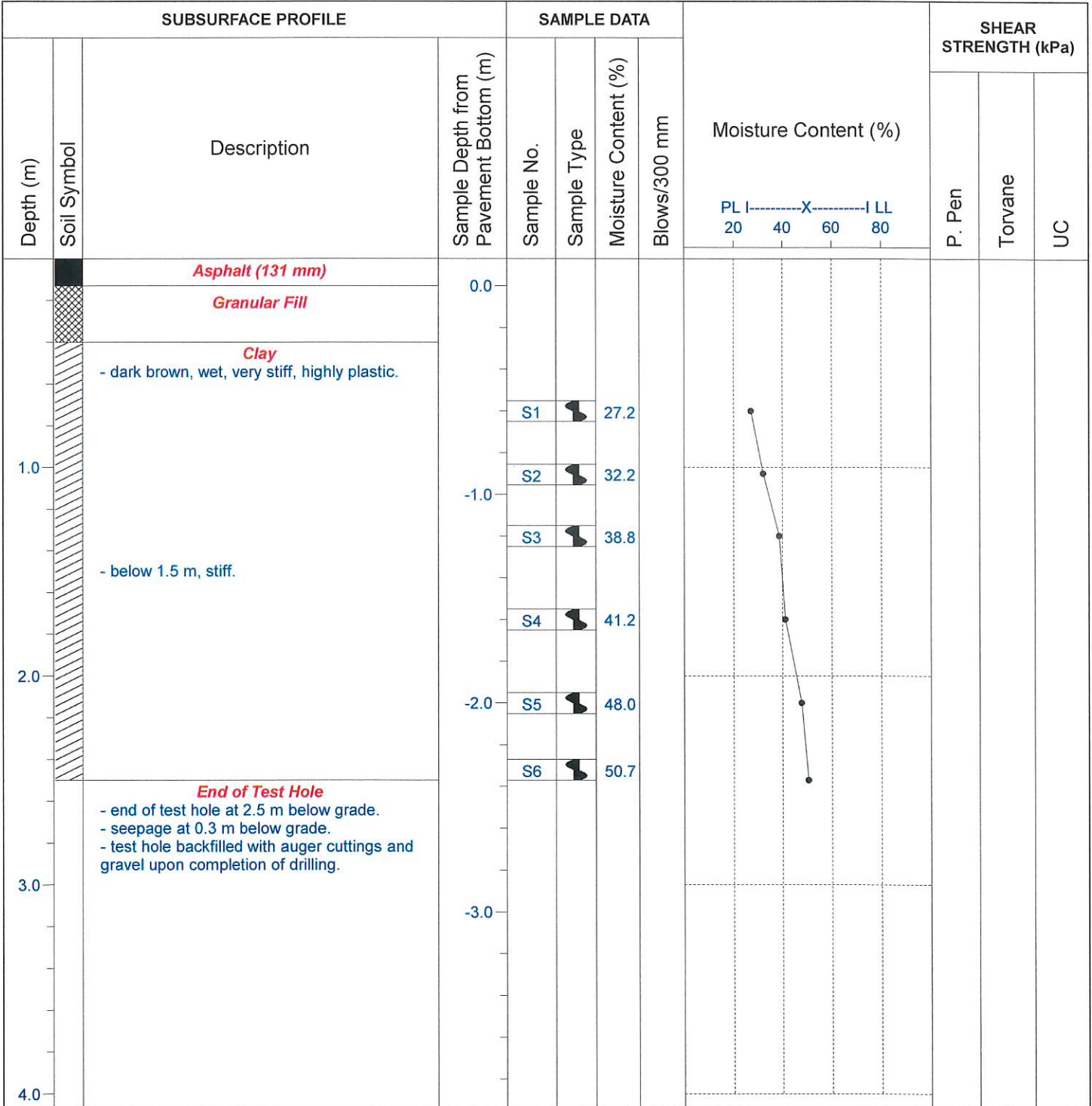
File No.: 23-035-03

Date Drilled: April 19, 2024

Grade Elevation: 100.0 m

Water Elevation: --

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ENG- TECH Consulting Limited

Logged by: DB

Reviewed by:

Drilled By: ENG-TECH Consulting Limited

Drill Rig: Lone Star T1A+

Auger Size: 100 mm Solid Stem

Completion Depth: 2.5 m

Completion Elevation: 97.5 m

Sheet: 1 of 1

SAMPLE TYPE



SPLIT BARREL



SHELBY TUBE



AUGER CUTTINGS



SPLIT SPOON



Test Hole #: TH2

Client: WSP Canda Inc.

Site: WB Abinooji Mikanah Blvd, Winnipeg, MB

Location: See Figure 1

Project: Bishop Grandin Boulevard (Abinooji Mikanah) Pavement Renewals

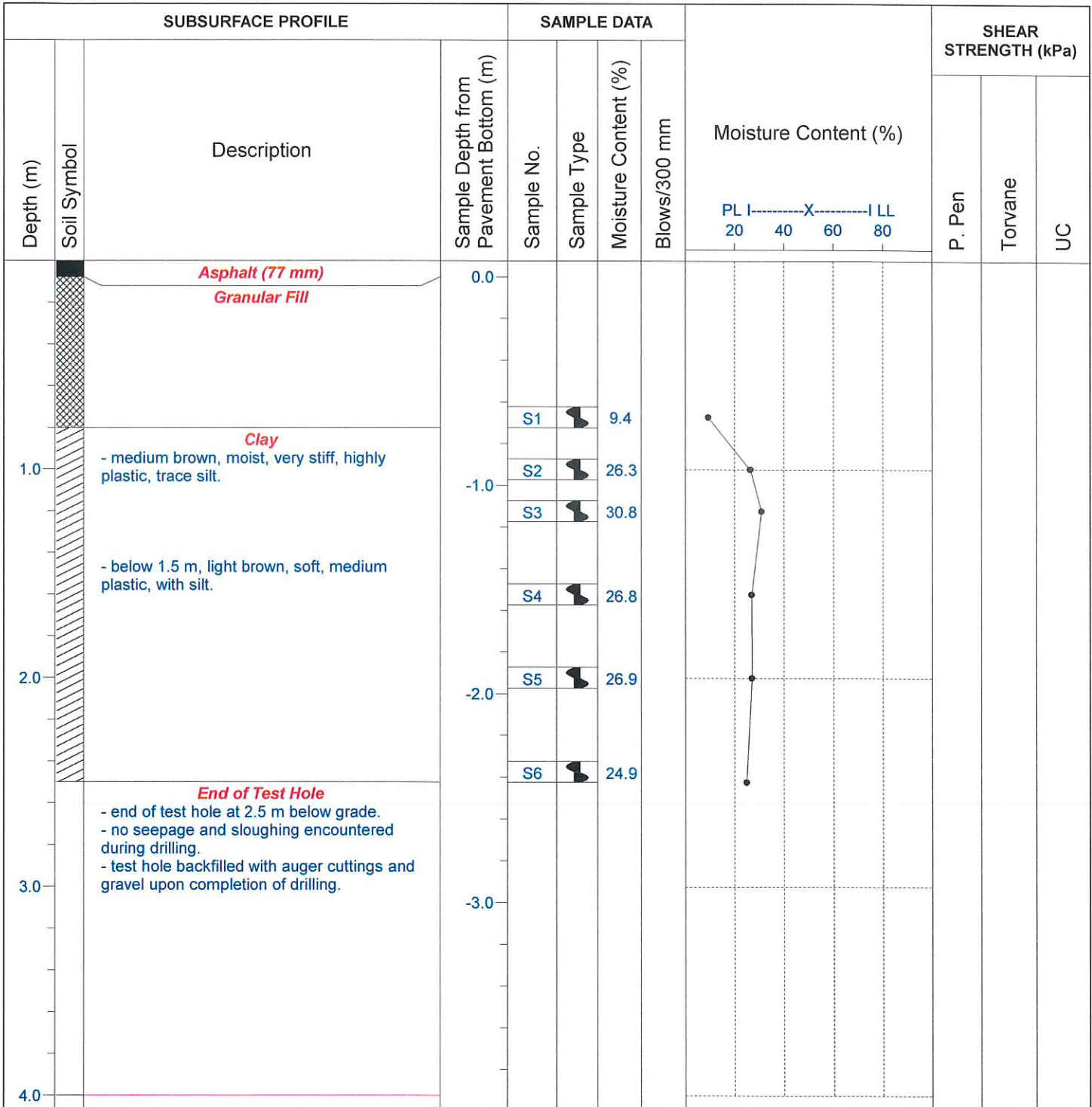
File No.: 23-035-03

Date Drilled: April 19, 2024

Grade Elevation: 100.0 m

Water Elevation: --

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