

APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

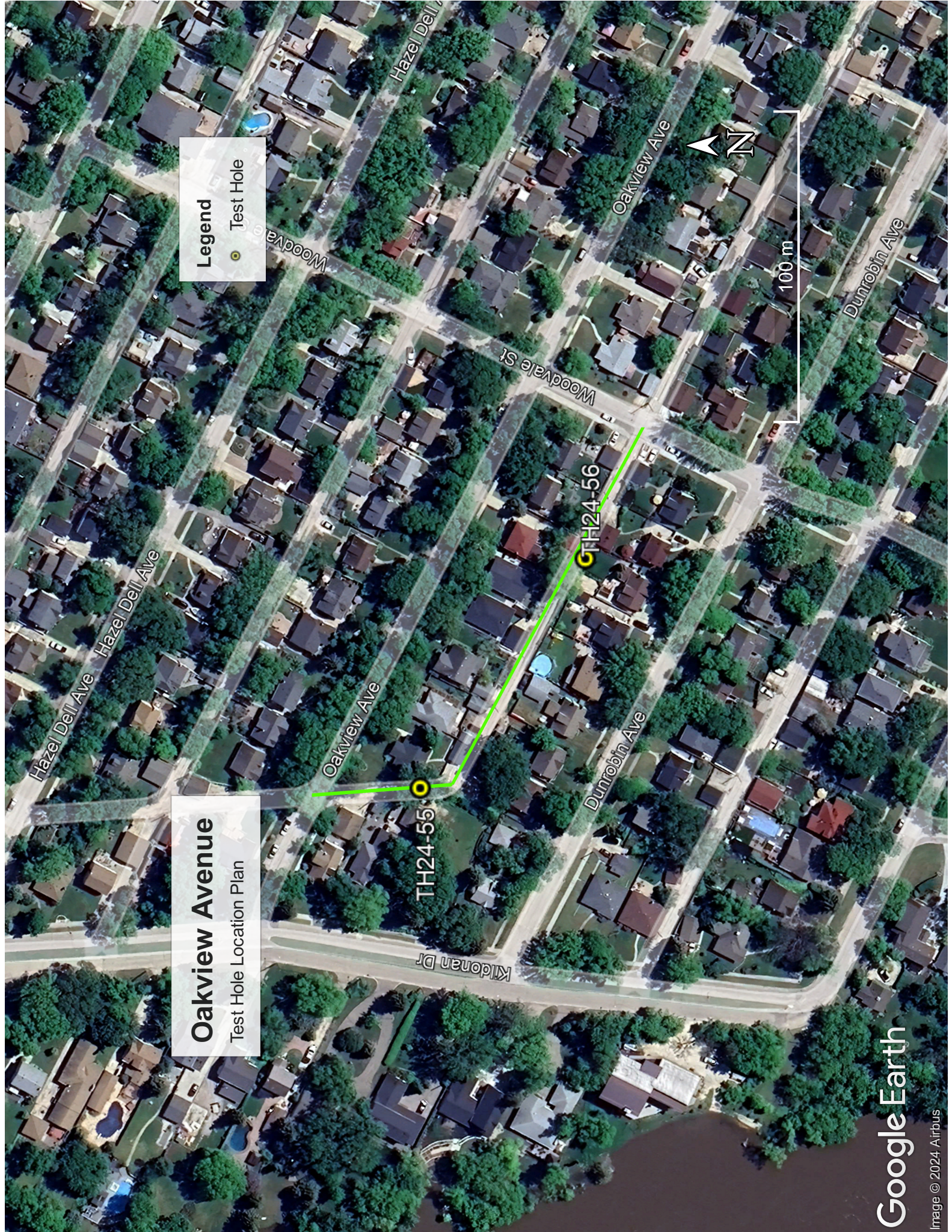
The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commence.

Oakview Avenue

Test Hole Location Plan

Legend

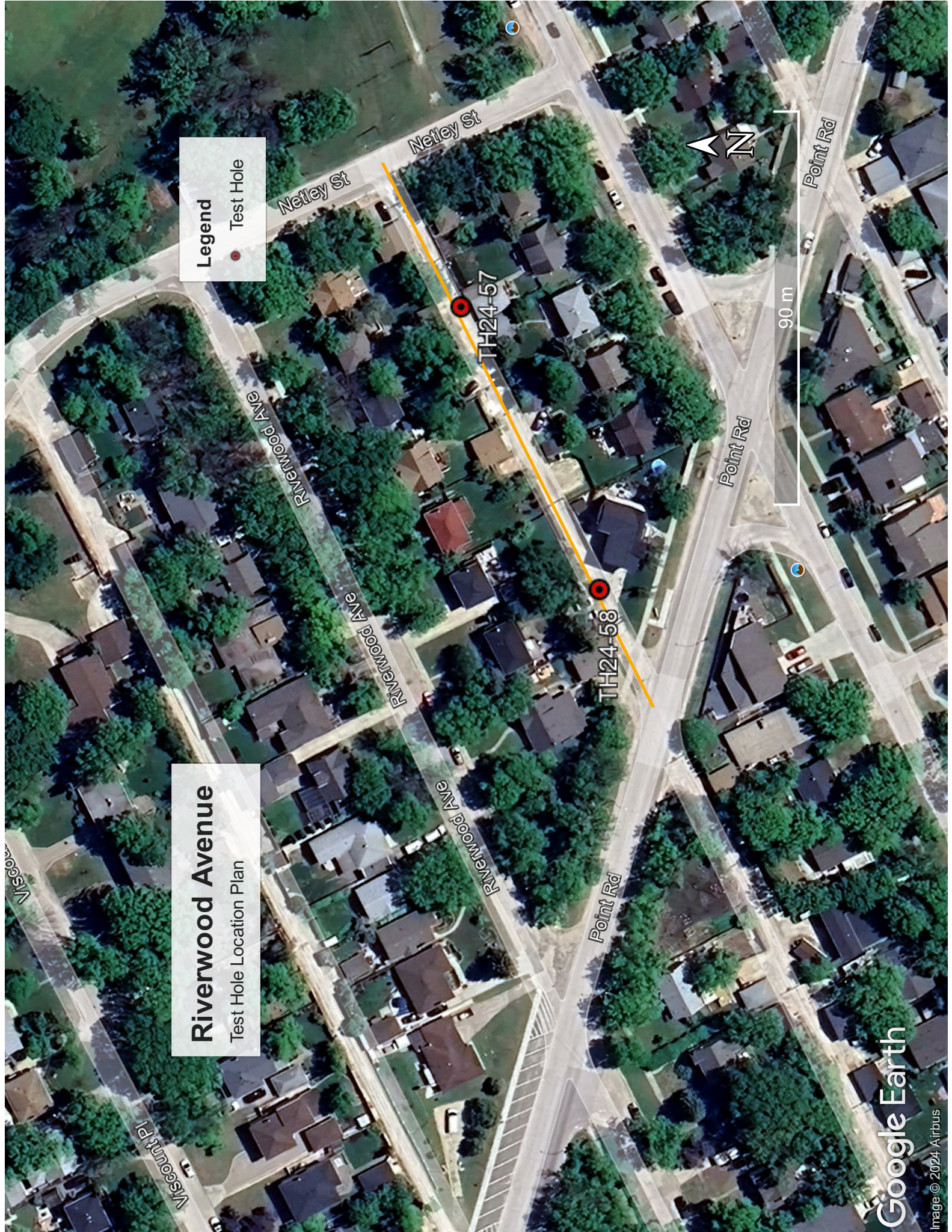
- Test Hole



Legend

- Test Hole

Riverwood Avenue
Test Hole Location Plan













Manchester Boulevard North

Test Hole Location Plan





KEY TO SYMBOLS

LITHOLOGIC SYMBOLS

-  Asphalt
-  Clay (CH, high plasticity)
-  Clay (CL, low plasticity)
-  Silty Clay (CL-ML)
-  Concrete
-  Fill
-  Sandy Gravel
-  Well Graded Gravel (GW)
-  Silt (ML)
-  Poorly Graded Sand with Gravel (SP)

SAMPLER SYMBOLS

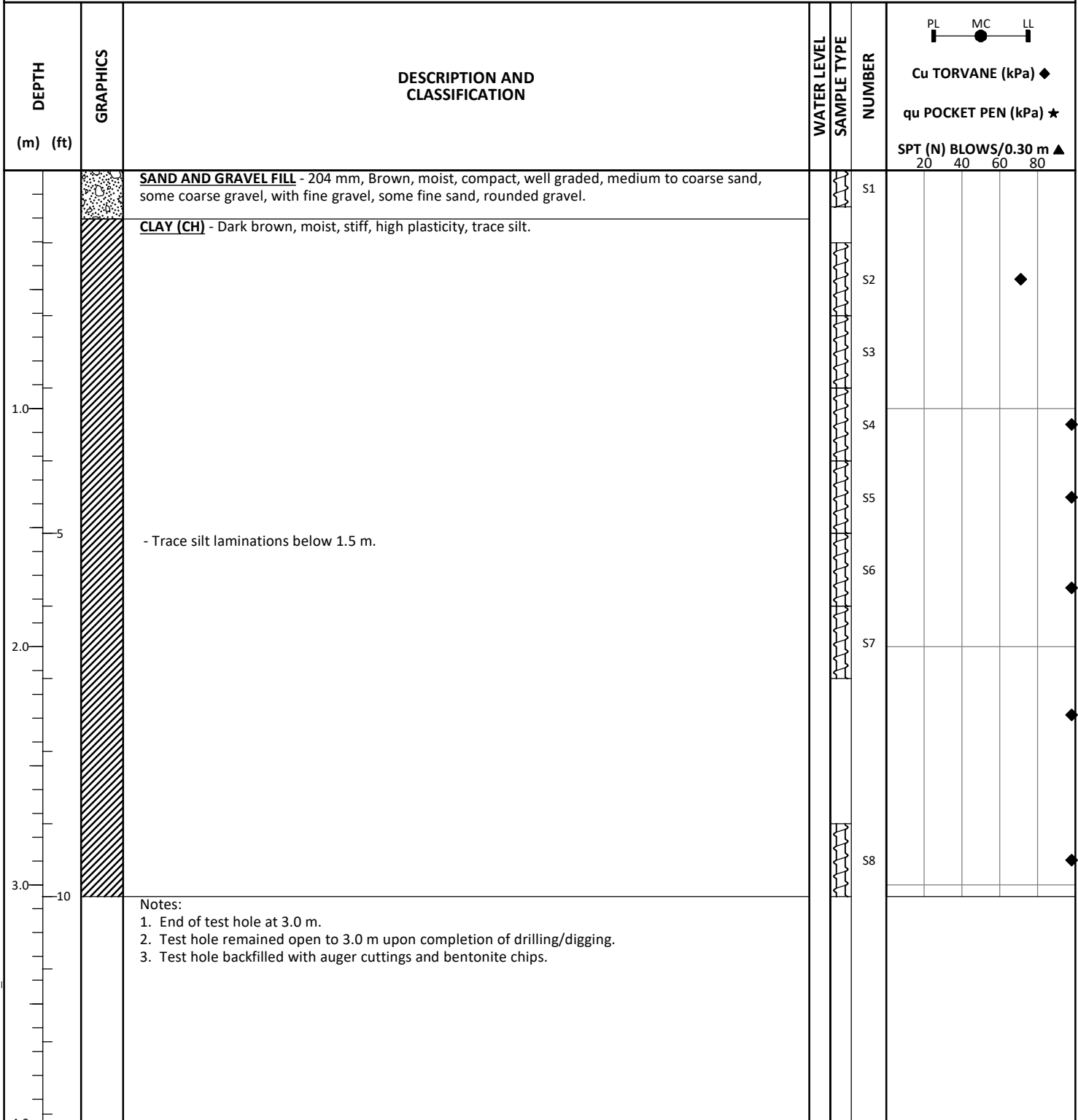
-  Auger Grab
-  Core Barrel

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

- | | |
|---|---|
| <ul style="list-style-type: none"> LL - Liquid Limit PL - Plastic Limit PI - Plastic Index MC - Moisture Content DD - Dry Density NP - Non-Plastic -200 - Percent Passing No. 200 Sieve TV - Torvane (kPa) PP - Pocket Penetrometer (kPa) PSA - Particle Size Analysis TOC - Top Of Casing | <ul style="list-style-type: none"> PN - Pneumatic Piezometer VW - Vibrating Wire Piezometer PID - Photoionization Detector ppm - Parts Per Million ∇ - Water Level During Drilling ▼ - Water Level Upon Completion of Drilling ∇ - Water Level Remeasured/Static |
|---|---|

CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,532,732 E 635,792 Zone 14
DESCRIPTION	Oakview Avenue, North of bend in back lane, east of garage at 821 Oakview.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		



Notes:
 1. End of test hole at 3.0 m.
 2. Test hole remained open to 3.0 m upon completion of drilling/digging.
 3. Test hole backfilled with auger cuttings and bentonite chips.

WATER LEVELS ▽ During Drilling/Digging on 7-25-2024 None Encountered
 ▽ Upon Completion on 7-25-2024 Dry

CONTRACTOR Maple Leaf Drilling Ltd.	INSPECTOR C. FRIESEN
APPROVED T. SCHELLENBERG	DATE 7-29-2024

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CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,532,681 E 635,867 Zone 14
DESCRIPTION	Oakview Ave, Back lane, Approx. 40 m west of Woodvale Street.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	SPT (N) BLOWS/0.30 m ▲			
						20	40	60	80
		SAND AND GRAVEL FILL - 204 mm, Brown, damp, compact, well graded, medium to coarse sand, some coarse gravel, with fine gravel, trace fine sand, rounded gravel.			S1				
		CLAY (CH) - Dark grey, moist, stiff, high plasticity, trace silt. - Brown below 0.5 m.			S2				
1.0		- Some to with silt below 1.1 m.			S3				
					S4				
1.5					S5				
					S6				
2.0		- Trace silt below 1.9 m.			S7				
					S8				
3.0		- Trace silt nodules below 2.7 m.							
		Notes: 1. End of test hole at 3.0 m. 2. Test hole remained open to 3.0 m upon completion of drilling/digging. 3. Test hole backfilled with auger cuttings and bentonite chips.							

PL MC LL

Cu TORVANE (kPa) ◆

qu POCKET PEN (kPa) ★

SPT (N) BLOWS/0.30 m ▲

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WATER LEVELS ▽ During Drilling/Digging on 7-5-2024 None Encountered
 ▽ Upon Completion on 7-25-2024 Dry

CONTRACTOR Maple Leaf Drilling Ltd.	INSPECTOR C. FRIESEN
APPROVED T. SCHELLENBERG	DATE 7-29-2024

CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,523,238
DESCRIPTION	Riverwood Avenue, Back lane, 35 m W of Netley St, behind 630 Riverwood.		E 633,762 Zone 14
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	Soil Properties		
						Cu TORVANE (kPa) ◆	qu POCKET PEN (kPa) ★	SPT (N) BLOWS/0.30 m ▲
		CRUSHED LIMESTONE - 177 mm, Brown, dry to damp, compact, well graded, maximum aggregate size ~20mm.			S1			
		CLAY FILL - 433 mm, Greyish brown, moist, stiff, high plasticity, some gravel, some medium to coarse sand.			S2			
		CLAY (CH) - Black, moist, stiff, high plasticity, some silt. - Trace organic odour, trace rootlets from 0.6 m to 0.8 m. - Greyish brown, trace silt below 0.8 m.			S3			
1.0					S4			
1.5		- Brown below 1.7 m.			S5			
2.0		- With silt, firm from 2.0 m to 2.3 m.			S6			
2.5		- Trace silt nodules below 2.4 m.			S7			
3.0					S8			
		Notes: 1. End of test hole at 3.0 m. 2. Test hole remained open to 3.0 m upon completion of drilling/digging. 3. Test hole backfilled with auger cuttings and bentonite chips.						

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WATER LEVELS	▽ During Drilling/Digging	on 7-25-2024 None Encountered	CONTRACTOR	INSPECTOR
	▼ Upon Completion	on 7-25-2024 Dry	Maple Leaf Drilling Ltd.	C. FRIESEN
			APPROVED	DATE
			T. SCHELLENBERG	7-29-2024

CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,523,204 E 633,699 Zone 14
DESCRIPTION	Riverwood Avenue, Back lane, 32 m E of Point Rd, south of 640 Riverwood garage.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	Soil Properties		
						Cu TORVANE (kPa) ◆	qu POCKET PEN (kPa) ★	SPT (N) BLOWS/0.30 m ▲
		SAND AND GRAVEL FILL - 76 mm, Brown, damp, compact, well graded, medium to coarse sand, and fine gravel, trace coarse gravel, trace fine sand.			S1			
		CLAY FILL - 229 mm, Dark brown, moist, stiff, high plasticity, some fine gravel, some medium to coarse sand.			S2			
		CLAY (CH) - Dark grey, moist, stiff, high plasticity, trace rootlets, trace silt. - Dark brown, no rootlets below 0.5 m.			S3			
1.0					S4			
					S5			
1.5					S6			
					S7			
2.0					S8			
		CLAYEY SILT (ML) - Brown, moist, firm, low plasticity, trace clay.			S9			
		CLAY (CH) - Brown, moist, stiff, high plasticity, trace silt nodules, trace gypsum nodules.			S10			
3.0								

Notes:
 1. End of test hole at 3.0 m.
 2. Test hole remained open to 3.0 m upon completion of drilling/digging.
 3. Test hole backfilled with auger cuttings and bentonite chips.

WATER LEVELS
 ▽ During Drilling/Digging on 7-25-2024 None Encountered
 ▼ Upon Completion on 7-25-2024 Dry

CONTRACTOR
Maple Leaf Drilling Ltd.

INSPECTOR
C. FRIESEN

APPROVED
T. SCHELLENBERG

DATE
7-29-2024

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CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,523,176 E 633,837 Zone 14
DESCRIPTION	Manchester Boulevard N, Back lane, 40 m E of Point Rd.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	PL MC LL			
						Cu TORVANE (kPa) ◆			
						qu POCKET PEN (kPa) ★			
						SPT (N) BLOWS/0.30 m ▲			
						20	40	60	80
		SAND AND GRAVEL FILL - 204 mm, Brown, damp, compact, well graded, medium to coarse sand, fine gravel, some fine sand, some coarse gravel.			S1				
		CLAY FILL - 405 mm, Dark brown, moist, stiff, high plasticity, trace coarse gravel, some fine gravel, some medium to coarse sand.			S2				◆
		CLAY (CH) - Dark grey, moist, stiff, high plasticity, trace silt nodules.			S3				◆
1.0		- Brown, some to with silt below 1.1 m. - Some silt lenses, trace silt below 1.2 m.			S4		◆		
5					S5				◆
2.0					S6				◆
		- With silt from 2.4 m to 2.6 m. - Firm below 2.7 m.			S7				◆
3.0					S8				◆
		Notes: 1. End of test hole at 3.0 m. 2. Test hole remained open to 3.0 m upon completion of drilling/digging. 3. Test hole backfilled with auger cuttings and bentonite chips.							

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WATER LEVELS	▽ During Drilling/Digging	on 7-25-2024 None Encountered	CONTRACTOR	INSPECTOR
	▼ Upon Completion	on 7-25-2024 Dry	Maple Leaf Drilling Ltd.	C. FRIESEN
			APPROVED	DATE
			T. SCHELLENBERG	7-29-2024

CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,523,238 E 633,943 Zone 14
DESCRIPTION	Manchester Boulevard N, Back lane, behind 528 Oakenwald.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	SPT (N) BLOWS/0.30 m ▲				
						20	40	60	80	
		SAND AND GRAVEL FILL - 357 mm, Brown, damp, compact, medium to coarse sand, some fine gravel, trace fine sand, trace coarse gravel, rounded gravel, trace crushed limestone at surface.			S1					
		CLAY FILL - 253 mm, Dark grey, moist, stiff, high plasticity, some to with fine gravel, some medium to coarse sand.			S2				◆	
		CLAY (CH) - Grey and black, moist, stiff, high plasticity, trace silt, some organics. - Brown and grey, no organics below 0.7 m.			S3					
1.0					S4					◆
						S5				◆
5						S6				◆
						S7				◆
2.0									◆	
					S8				◆	
3.0									◆	
10										

Notes:
 1. End of test hole at 3.0 m.
 2. Test hole remained open to 3.0 m upon completion of drilling/digging.
 3. Test hole backfilled with auger cuttings and bentonite chips.

WATER LEVELS ▽ During Drilling/Digging on 7-25-2024 None Encountered
 ▽ Upon Completion on 7-25-2024 Dry

CONTRACTOR Maple Leaf Drilling Ltd.	INSPECTOR C. FRIESEN
APPROVED T. SCHELLENBERG	DATE 7-29-2024

CLIENT	KGS GROUP	PROJECT NO.	24-0535-004
PROJECT	2024 COW Local Street Program	START DATE	7-25-2024
LOCATION	Winnipeg, MB	UTM (m)	N 5,523,286 E 634,040 Zone 14
DESCRIPTION	Manchester Boulevard N, Back lane, 30 m W of Wildwood Street.		
DRILL RIG / HAMMER	GeoProbe 7822DT Track Mounted Drill Rig with Auto-Hammer		
METHOD(S)	0.0 m to 3.0 m: 125 mm ø SSA		

DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	WATER LEVEL	SAMPLE TYPE	NUMBER	Soil Properties			
						PL	MC	LL	SPT (N) BLOWS/0.30 m ▲
		SAND AND GRAVEL FILL - 229 mm, Brown, damp, compact, well graded, medium to coarse sand, fine gravel, some coarse gravel, some fine sand.			S1				
		CLAY FILL - 229 mm, Grey, moist, stiff, high plasticity, trace coarse gravel, some fine gravel, some coarse sand, trace medium sand.			S2				◆
		CLAY (CH) - Greyish brown, moist, stiff, high plasticity, trace rootlets. - No rootlets below 0.6 m.			S3				◆
1.0					S4				
1.5		- Trace silt nodules below 1.5 m.			S5				◆
2.0		- Some silt laminations from 1.8 m to 2.4 m.			S6				◆
2.5					S7				◆
3.0					S8				◆

Notes:
 1. End of test hole at 3.0 m.
 2. Test hole remained open to 3.0 m upon completion of drilling/digging.
 3. Test hole backfilled with auger cuttings and bentonite chips.

WATER LEVELS ▽ During Drilling/Digging on 7-25-2024 None Encountered
 ▽ Upon Completion on 7-25-2024 Dry

CONTRACTOR Maple Leaf Drilling Ltd. **INSPECTOR** C. FRIESEN

APPROVED T. SCHELLENBERG **DATE** 7-29-2024

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