A1 SIZE (594 mm x 841 mm)

KGS GROUP — SUMMARY LOG

REFERENCE NO. —
HOLE NO. TH17-01
SHEET 1 of 2

CLIENT WSP CANADA GROUP LIMITED
PROJECT Truro Creek Culvert Replacements
SITE Winchester Street Culvert Crossing
LOCATION South of Culvert Inlet
DRILLING METHOD 125 mm ø Solid Stem Auger, B54X Track Mounted Drill Rig

JOB NO. 17-0183-002
GROUND ELEV. 232.75 m +/-
TOP OF CASING ELEV. 232.70 m +/-
WATER ELEV.
DATE DRILLED 11/5/2017
UTM (m) N 5,527,383 E 627,229

ELEVATION (m)	DEPTH (m)	DEPTH (ft)	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	RECOVERY %	SPT (N) blows/0.15 m	DYNAMIC CONE (N) blows/ft
232.4	0		TOPSOIL (OH) – Dark brown, damp, firm, intermediate to high plasticity, trace rootlets.					
232	0.3		SILTY CLAY FILL (CH) – Dark brown to black, damp, stiff, high plasticity, some fine to coarse grained sand, trace fine to coarse grained gravel, trace organics.					
231.8	1		SILTY CLAY (CH) – Brown, damp, stiff, high plasticity, trace silt inclusions.					
231	2	5			S01			
	3	10			S02			
230					S03			
					S04			
229	4	15	– Firm below 3.4 m.		S05			
228	5		– Dark brown to grey, damp to moist below 4.6 m.					
					S06			
227	6	20	– Dark grey, moist, occasional silt till pockets below 6.1 m.					
226	7				S07			
225		25	– Moist to wet, soft, trace fine to coarse grained sand, occasional fine to coarse grained gravel below 7.6 m.					

PIEZ. LOG: 0.1, 0.1, 0.3, 5.5, 5.9, 6.2, 6.7

Cu POCKET PEN (kPa) ★
Cu TORVANE (kPa) ◆
DYNAMIC CONE (N) blows/ft △
PL MC LL (%)

SAMPLE TYPE ⊠ Auger Grab ⊠ Split Spoon

CONTRACTOR Maple Leaf Drilling Ltd. | INSPECTOR K. HAMILTON | APPROVED DEA | DATE 10/6/17

KGS GROUP — SUMMARY LOG

REFERENCE NO. —
HOLE NO. TH17-01
SHEET 2 of 2

ELEVATION (m)	DEPTH (m)	DEPTH (ft)	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	RECOVERY %	SPT (N) blows/0.15 m	DYNAMIC CONE (N) blows/ft
224	9	30			S08			
223.6			SILT (ML) – Tan, damp to moist, compact, trace fine to coarse grained sand, trace fine to coarse grained gravel.		S09	100	2, 14, 18	
223					S10			
222.7	10	35	SAND (SW) – Tan, wet, dense, fine to coarse grained, trace fine grained gravel, poor auger recovery throughout.		S11			
222					S12	100	19, 24, 30	
221.8	11		SILT TILL – Tan, damp, very dense, some to with fine to coarse grained sand, some to with fine to coarse grained gravel, difficult drilling.		S13			
221	12	40						
220	13				S14	100	22, 35, 40	
219	14	45			S15			
218.4			POWER AUGER REFUSAL at 14.33 m<<C>>		S16	100	50	* Stopped with 37.5 mm left in last set
218	15	50						
217	16							
216		55						
	17							

PIEZ. LOG: 13.4, 14.0, 14.3

Cu POCKET PEN (kPa) ★
Cu TORVANE (kPa) ◆
DYNAMIC CONE (N) blows/ft △
PL MC LL (%)

SAMPLE TYPE ⊠ Auger Grab ⊠ Split Spoon

CONTRACTOR Maple Leaf Drilling Ltd. | INSPECTOR K. HAMILTON | APPROVED DEA | DATE 10/6/17

Notes:

1. Test hole was dry while drilling above the sand. Significant water infiltration into the test hole from the sand and silt till 10 m below ground surface.
2. At the completion of drilling the test hole was open to 14 m with water at 5.5 m below ground surface.
3. Casagrande tipped standpipe installed at 14.33 m below ground surface.
4. Pneumatic piezometer PN037468 installed at 6.24 m below ground surface.
5. Backfilled with sand from 14.33 m to 13.4 m, bentonite chips from 13.4 m to 6.7 m, sand from 6.7 m to 5.5 m and bentonite chips from 5.5 m to ground surface.
6. Flush mount casing installed to protect instrumentation.
7. Truro creek level approximately 1.5 m below ground surface at the time of drilling.

KGS GROUP — SUMMARY LOG

REFERENCE NO. —
HOLE NO. TH17-05
SHEET 1 of 1

CLIENT WSP CANADA GROUP LIMITED
PROJECT Truro Creek Culvert Replacements
SITE Winchester Street Culvert Crossing
LOCATION North of Culvert in Southbound Lane 1 m from Curb
DRILLING METHOD 125 mm ø Solid Stem Auger, CME 55 Truck Mounted Drill Rig

JOB NO. 17-0183-002
GROUND ELEV. 232.85 m +/-
TOP OF CASING ELEV.
WATER ELEV.
DATE DRILLED 11/5/2017
UTM (m) N 5,527,416 E 627,240

ELEVATION (m)	DEPTH (m)	DEPTH (ft)	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	RECOVERY %	SPT (N) blows/0.15 m	DYNAMIC CONE (N) blows/ft
232.8	0		ASPHALT – 51 mm thick		S01			
232.6			CONCRETE – 152 mm thick		S02			
232	1		SILTY CLAY FILL (CH) – Dark brown to black, damp, stiff, high plasticity, with fine to coarse grained sand, trace fine to coarse grained gravel, trace organics.		S03			
					S04			
231.6			SILTY CLAY (CH) – Brown, damp, very stiff, high plasticity, trace silt inclusions.		S05			
231	2	5	– Stiff below 1.5 m.		S06			
					S07			
230	3	10			S08			
229.8			End of Hole at 3.05 m<<C>>		S09			
229	4				S10			
228	5	15						
227	6							
		20						
226	7							
225		25						

Cu POCKET PEN (kPa) ★
Cu TORVANE (kPa) ◆
DYNAMIC CONE (N) blows/ft △
PL MC LL (%)
>100

SAMPLE TYPE ⊠ Auger Grab

CONTRACTOR Maple Leaf Drilling Ltd. | INSPECTOR K. HAMILTON | APPROVED DEA | DATE 10/6/17

Notes:

1. Test hole was open and dry to 3.05 m.
2. Backfilled with bentonite chips from 3.05 m to 2.5 m, cuttings from 2.5 m to 0.25 m, sand from 0.25 m to 0.225 m and redimix concrete from 0.225 m to ground surface.

KGS GROUP — SUMMARY LOG

REFERENCE NO. —
HOLE NO. TH17-06
SHEET 1 of 1

CLIENT WSP CANADA GROUP LIMITED
PROJECT Truro Creek Culvert Replacements
SITE Winchester Street Culvert Crossing
LOCATION South of Culvert in Northbound Lane 1.6 m from Curb
DRILLING METHOD 125 mm ø Solid Stem Auger, CME 55 Truck Mounted Drill Rig

JOB NO. 17-0183-002
GROUND ELEV. 233.02 m +/-
TOP OF CASING ELEV.
WATER ELEV.
DATE DRILLED 11/5/2017
UTM (m) N 5,527,366 E 627,242

ELEVATION (m)	DEPTH (m)	DEPTH (ft)	DESCRIPTION AND CLASSIFICATION	SAMPLE TYPE	SAMPLE NUMBER	RECOVERY %	SPT (N) blows/0.15 m	DYNAMIC CONE (N) blows/ft
233.0	0		ASPHALT – 64 mm thick		S01			
232.8			CONCRETE – 140 mm thick		S02			
232.6			GRANULAR FILL – Brown, damp, compact to dense, fine to coarse grained sand, with fine to coarse grained grave, trace silt, trace clay.		S03			
232	1		SILTY CLAY FILL (CH) – Dark brown to black, damp, stiff, high plasticity, some fine to coarse grained sand, trace fine to coarse grained gravel, trace organics.		S04			
231.8			SILTY CLAY (CH) – Brown, damp, very stiff, high plasticity, trace silt inclusions.		S05			
231	2	5	– Stiff below 2.1 m.		S06			
					S07			
230	3	10			S08			
			End of Hole at 3.05 m<<C>>		S09			
229	4				S10			
228	5	15						
227	6							
		20						
226	7							
		25						

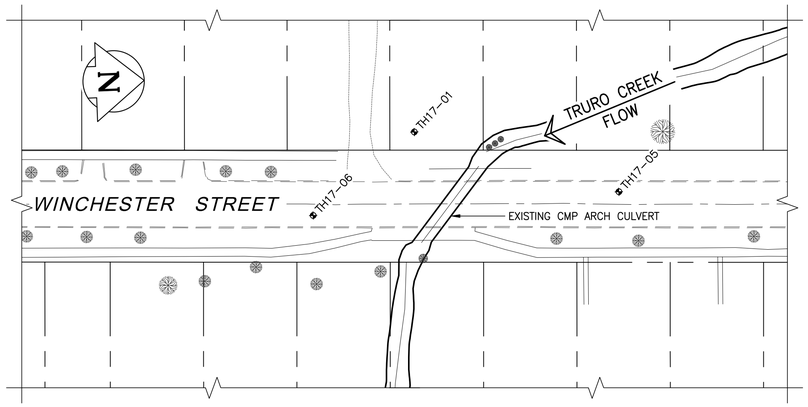
Cu POCKET PEN (kPa) ★
Cu TORVANE (kPa) ◆
DYNAMIC CONE (N) blows/ft △
PL MC LL (%)
>100

SAMPLE TYPE ⊠ Auger Grab

CONTRACTOR Maple Leaf Drilling Ltd. | INSPECTOR K. HAMILTON | APPROVED DEA | DATE 10/6/17

Notes:

1. Test hole was open and dry to 3.05 m.
2. Backfilled with bentonite chips from 3.05 m to 2.5 m, cuttings from 2.5 m to 0.225 m, sand from 0.225 m to 0.2 m and redimix concrete from 0.2 m to ground surface.



KEY PLAN

SCALE: 1:500 METERS
0 10 20 30

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
KGS Group
No. 245

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

LOCATIONS APPROVED UNDERGROUND STRUCTURES
SIGNED BY: _____ SUPV. U/G STRUCTURES _____ DATE

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT CONFIRMATION OF EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING

G.B.M. = TOP NUT OF FIRST HYDRANT SOUTH OF INTERSECTION BETWEEN NESS AVENUE AND LINWOOD STREET
ELEV. = 233.659

No.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	17.11.23	JL

KGS GROUP CONSULTING ENGINEERS

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www.wsp.com

DESIGNED BY	KWH	CHECKED BY	DEA
DRAWN BY	CP	APPROVED BY	JL
HOR. SCALE	1:500	RELEASED FOR CONSTRUCTION	
VERTICAL	1:500		
DATE	17.11.23	DATE	

ENGINEER'S SEAL
PROVINCE OF MANITOBA — Nov. 23/17 — D.E.S. ANDERSON — Member 2216 — REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT No. 17M-00806-00

Winnipeg
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TRURO CREEK CULVERT REPLACEMENT AT WINCHESTER STREET

BORING LOGS

CITY DRAWING NUMBER C322-17-03
BID OPPORTUNITY NUMBER 1014-2017
SHEET 3 OF 25
REV 0

NOTE:
These design documents are prepared solely for the use by the party with whom the design professional has entered into a contract and there are no representations of any kind made by the design professional to any party with whom the design professional has not entered into a contract.

Plotted: November 24, 2017 at 10:20:44 AM | Last saved by: Patersonc
File: P:\2017\17M-00806-00 – Truro Creek Culvert Replacements\MMM Drawings\17M-00806-00 Truro Creek Culvert Replacements DD Winchester 03 boring logs.dwg | Layout: 3 Boring Logs

GEOTECHNICAL_SOIL LOG ULYMCV\17-0183-002\17-0183-002 – TRURO CREEK CULVERT REPLACEMENTS – LOGS.GPJ