APPENDIX 'F'

GEOTECHNICAL REPORT

2015 REGIONAL STREET RENEWAL PROGRAM

WILLSON PLACE BETWEEN WAVERLEY STREET AND FENNELL STREET

GEOTECHNICAL INVESTIGATION

Prepared for:
City Of Winnipeg
Engineering Division
Public Works Department
103 – 1155 Pacific Avenue
Winnipeg, Manitoba
R3E 3P1

Prepared by:
Stantec Consulting Ltd.
199 Henlow Bay
Winnipeg, MB
R3Y 1G4

January 16, 2015
Project No. 123311671

Stantec	Project No. 123311671	Drawn by: SB	Figure: 1	**Testhole Location Plan** **2015 Regional Street Renewal Program** **Willson Place between Waverley Street and Fennel Street**
	Date: Dec. 22, 2014	Reviewed by: GL	Scale: NTS	

TABLE 1
2015 REGIONAL STREET RENEWAL PROGRAM
WILLSON PLACE BETWEEN WAVERLEY STREET AND FENNEL STREET
GEOTECHNICAL INVESTIGATION

Testhole ID	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH1	10.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	185	-	-	-	-	-	-	-	-	-	-	-	-
TH2	68.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	-	-	-	-	-	-	-	-	-	-
TH3	125.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Asphalt	15	-	-	Clay Fill	0.9	21	1.2	12.7	33.5	52.6	53	16	37
		Concrete	130												
TH4	175.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Asphalt	80	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	180												
TH5	225.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Asphalt	130	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	120												
TH6	288.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	160	-	-	-	-	-	-	-	-	-	-	-	-
TH7	323.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	165	-	-	-	-	-	-	-	-	-	-	-	-
TH8	375.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	Clay	0.9	31	0.0	1.6	8.6	89.8	81	24	57
TH9	414.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb	Concrete	170	-	-	-	-	-	-	-	-	-	-	-	-
TH10	457.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb	Concrete	155	-	-	-	-	-	-	-	-	-	-	-	-

TESTHOLE RECORD TH01

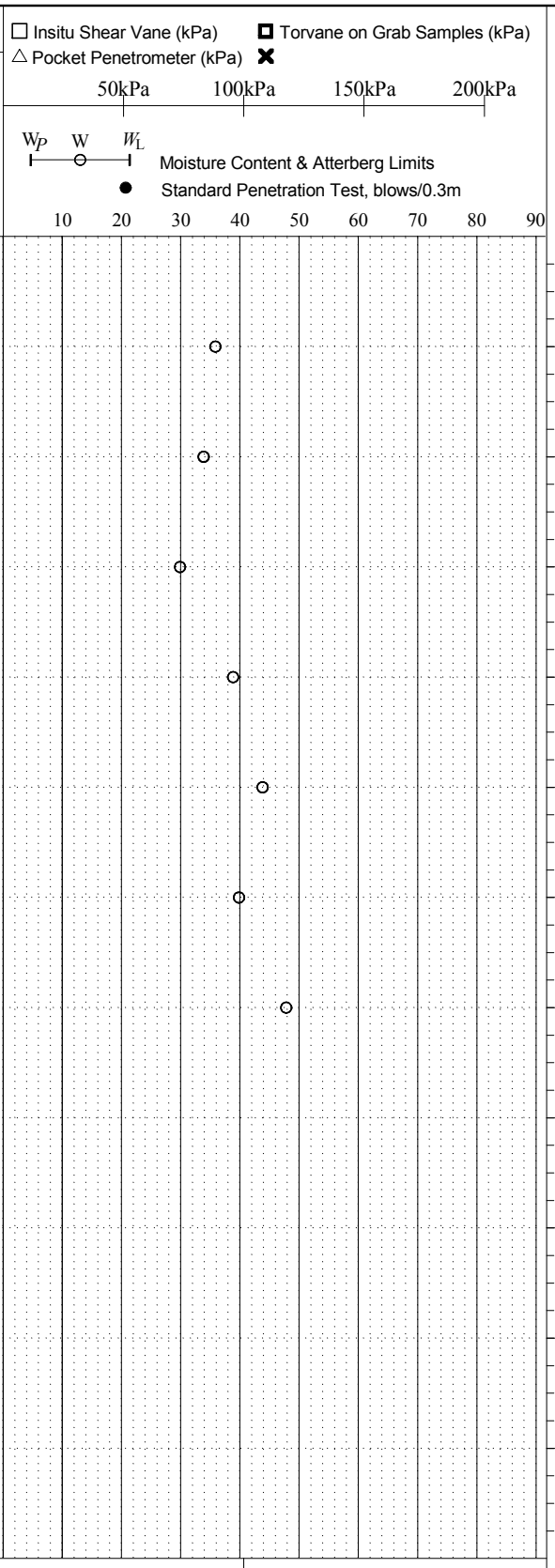
CLIENT City of Winnipeg PROJECT No. 123311671

PROJECT 2015 Regional Street Renewal Program DATUM

LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION

DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay - black, stiff, moist, high plasticity - trace organic material - trace silt - trace fine to coarse sand - brown below 1.2 m		AS		36
					AS		34
1					AS		30
					AS		39
					AS		44
					AS		40
2					AS		48
			TESTHOLE LOCATION: 10.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.				
3							



DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test

Piezometer Backfill Type: ■ Bentonite ⊠ Drill Cuttings ⁘ Sand

Logged by: Nestor Abarca

Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH02

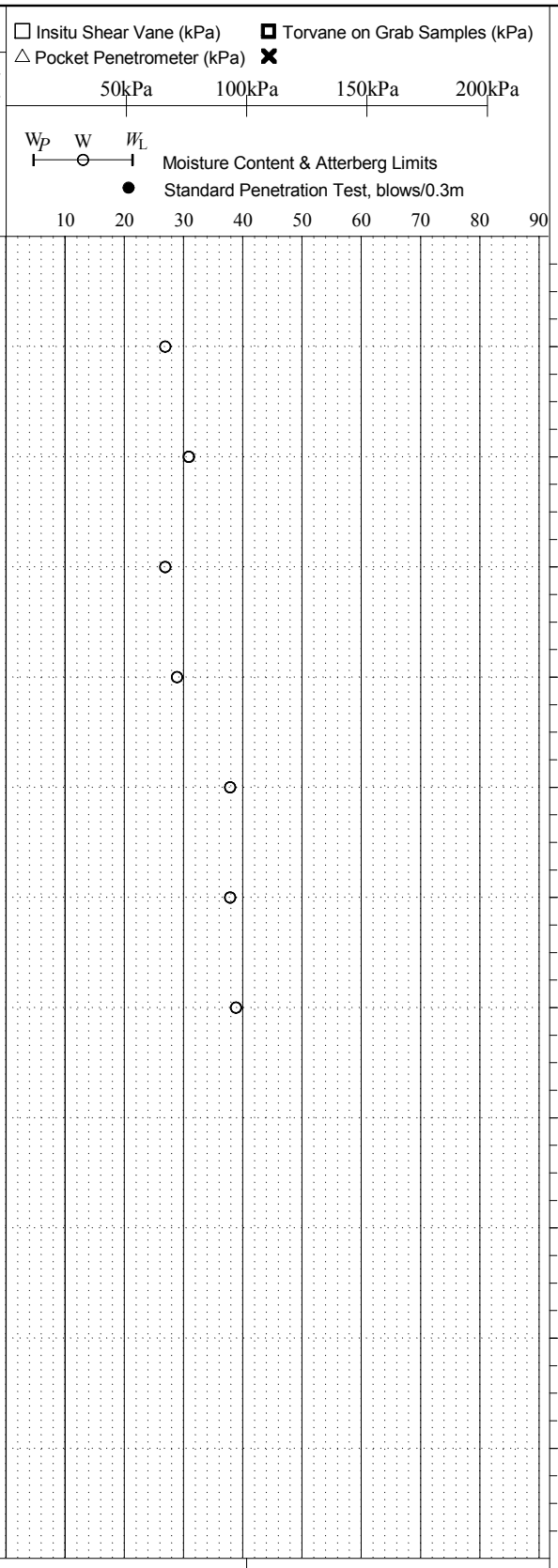
CLIENT City of Winnipeg PROJECT No. 123311671

PROJECT 2015 Regional Street Renewal Program DATUM

LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION

DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay Fill - black, stiff, moist, high plasticity - trace organic material - silty - trace fine to coarse sand - trace fine gravel - brown below 0.8 m		AS		27
					AS		31
1					AS		27
					AS		29
	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		38
					AS		38
2					AS		39
			TESTHOLE LOCATION: 68.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.				
3							



DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test

Piezometer Backfill Type: Bentonite Drill Cuttings Sand

Logged by: Nestor Abarca

Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH03

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	AS	Asphalt		CORE		
	CO	Concrete				
		Clay Fill				
		- black, stiff, moist, high plasticity		AS		28
		- trace organic material				
		- silty		AS		28
		- trace fine to coarse sand				
	CH	- trace fine gravel				
		Particle Size Analysis at 0.9 m: 1.2% Gravel, 12.7% Sand, 33.5% Silt, 52.6% Clay		AS		21
1				AS		27
		Clay				
		- brown, stiff, moist, high plasticity		AS		32
		- trace silt				
	CH	- trace fine to coarse sand		AS		33
2				AS		27
		TESTHOLE LOCATION: 125.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb.				
		• The soil was frozen to a depth of 1.2 m.				
		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling.				
		• Testhole terminated at a depth of 2.1 m.				
3						

□ Insitu Shear Vane (kPa) ■ Torvane on Grab Samples (kPa)
△ Pocket Penetrometer (kPa) ✖
50kPa 100kPa 150kPa 200kPa
W_P W W_L Moisture Content & Atterberg Limits
● Standard Penetration Test, blows/0.3m
10 20 30 40 50 60 70 80 90

DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: Bentonite Drill Cuttings Sand

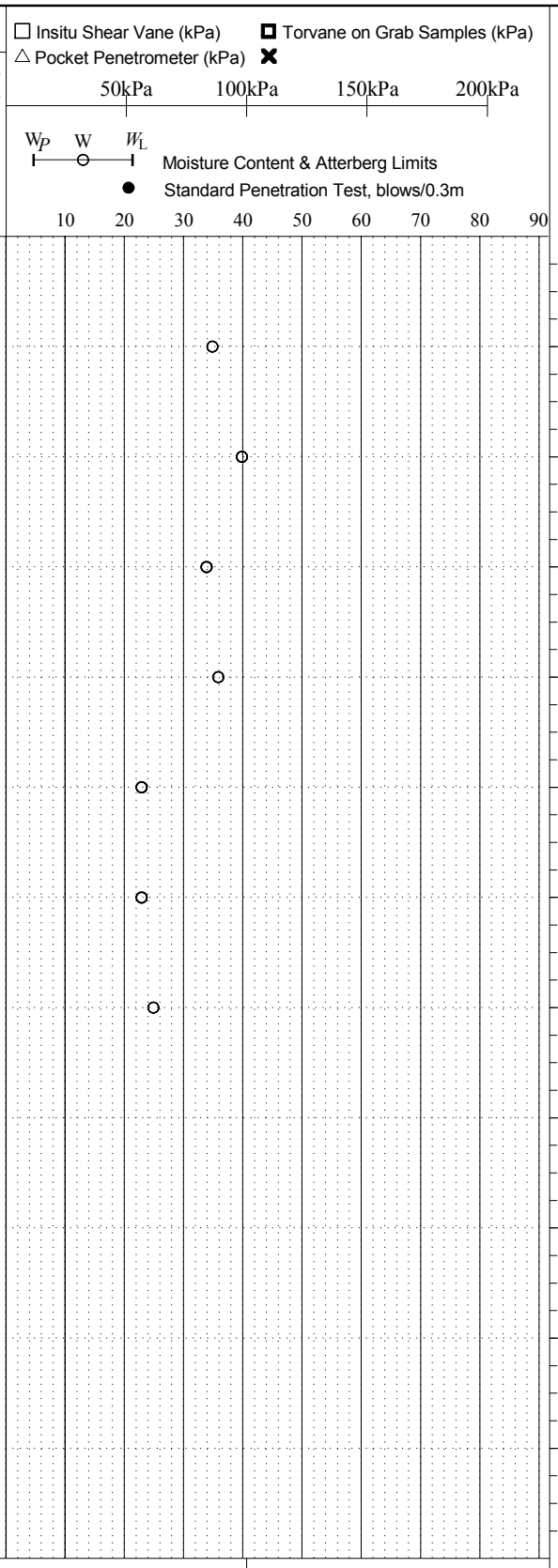
Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH04

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	AS		Asphalt		CORE		
	CO		Concrete				
	CH		Clay Fill - black, stiff, moist, high plasticity - silty - trace fine to coarse sand - trace fine gravel		AS		35
					AS		40
1	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		34
					AS		36
	ML		Silt - tan, soft, moist, low plasticity		AS		23
2					AS		23
			TESTHOLE LOCATION: 175.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.		AS		25
3							



DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: Bentonite Drill Cuttings Sand

Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH05

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	AS		Asphalt		CORE		
	CO		Concrete				
	CH		Clay Fill - black, stiff, moist, high plasticity - silty - trace fine to coarse sand - trace fine gravel		AS		34
					AS		35
1					AS		36
					AS		37
	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		40
					AS		44
2					AS		41
			TESTHOLE LOCATION: 225.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.				
3							

☐ Insitu Shear Vane (kPa) ■ Torvane on Grab Samples (kPa)
△ Pocket Penetrometer (kPa) ✖
50kPa 100kPa 150kPa 200kPa
W_P W W_L Moisture Content & Atterberg Limits
● Standard Penetration Test, blows/0.3m
10 20 30 40 50 60 70 80 90

DEPTH (ft): 0 2 4 6 8 10 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: Bentonite Drill Cuttings Sand

Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH06

CLIENT City of Winnipeg PROJECT No. 123311671

PROJECT 2015 Regional Street Renewal Program DATUM

LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION

DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay - black, stiff, moist, high plasticity - trace organic material - trace silt - trace fine to coarse sand - brown below 1.2 m		AS		39
					AS		40
1					AS		42
					AS		34
					AS		37
					AS		39
2					AS		40
			TESTHOLE LOCATION: 288.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.				
3							

☐ Insitu Shear Vane (kPa) ■ Torvane on Grab Samples (kPa)
△ Pocket Penetrometer (kPa) ✖

50kPa 100kPa 150kPa 200kPa

W_P W W_L Moisture Content & Atterberg Limits

● Standard Penetration Test, blows/0.3m

10 20 30 40 50 60 70 80 90

DEPTH (ft): 0 2 4 6 8 10 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test

Piezometer Backfill Type: ■ Bentonite ⊠ Drill Cuttings ⁘ Sand

Logged by: Nestor Abarca

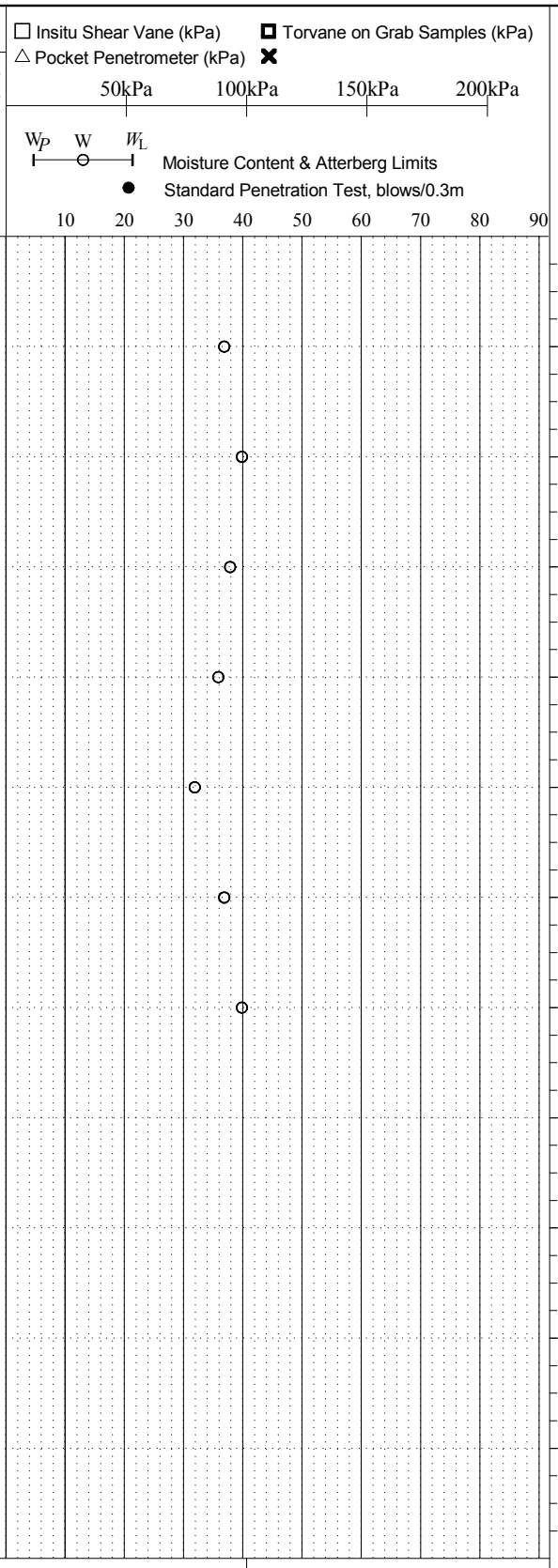
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH07

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay Fill - black, stiff, moist, high plasticity - silty - trace fine to coarse sand - trace fine gravel		AS		37
					AS		40
1					AS		38
	CH		Clay - brown, firm, moist, high plasticity - trace silt - trace fine to coarse sand - stiff below 1.8 m		AS		36
					AS		32
2					AS		37
			TESTHOLE LOCATION: 323.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.		AS		40
3							



DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: Bentonite Drill Cuttings Sand

Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH08

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand Particle Size Analysis at 0.9 m: 0.0% Gravel, 1.6% Sand, 8.6% Silt, 89.8% Clay		AS		32
					AS		32
1					AS		31
					AS		35
					AS		41
2					AS		41
			TESTHOLE LOCATION: 375.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.		AS		45
3							

☐ Insitu Shear Vane (kPa) ■ Torvane on Grab Samples (kPa)
△ Pocket Penetrometer (kPa) ✖
50kPa 100kPa 150kPa 200kPa
W_P W W_L Moisture Content & Atterberg Limits
● Standard Penetration Test, blows/0.3m
10 20 30 40 50 60 70 80 90

DEPTH (ft): 0 2 4 6 8 10 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: ■ Bentonite ⊠ Drill Cuttings ⁘ Sand

Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH09

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay Fill - black, stiff, moist, high plasticity - trace organic material - silty - trace fine to coarse sand - trace fine gravel		AS		37
					AS		38
1					AS		36
					AS		38
	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		35
					AS		38
2					AS		32
			TESTHOLE LOCATION: 414.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m South of North curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.				
3							

□ Insitu Shear Vane (kPa) ■ Torvane on Grab Samples (kPa)
△ Pocket Penetrometer (kPa) ✖
50kPa 100kPa 150kPa 200kPa
W_P W W_L Moisture Content & Atterberg Limits
● Standard Penetration Test, blows/0.3m
10 20 30 40 50 60 70 80 90

DEPTH (ft): 0 2 4 6 8 10 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: ■ Bentonite ⊠ Drill Cuttings ⁘ Sand

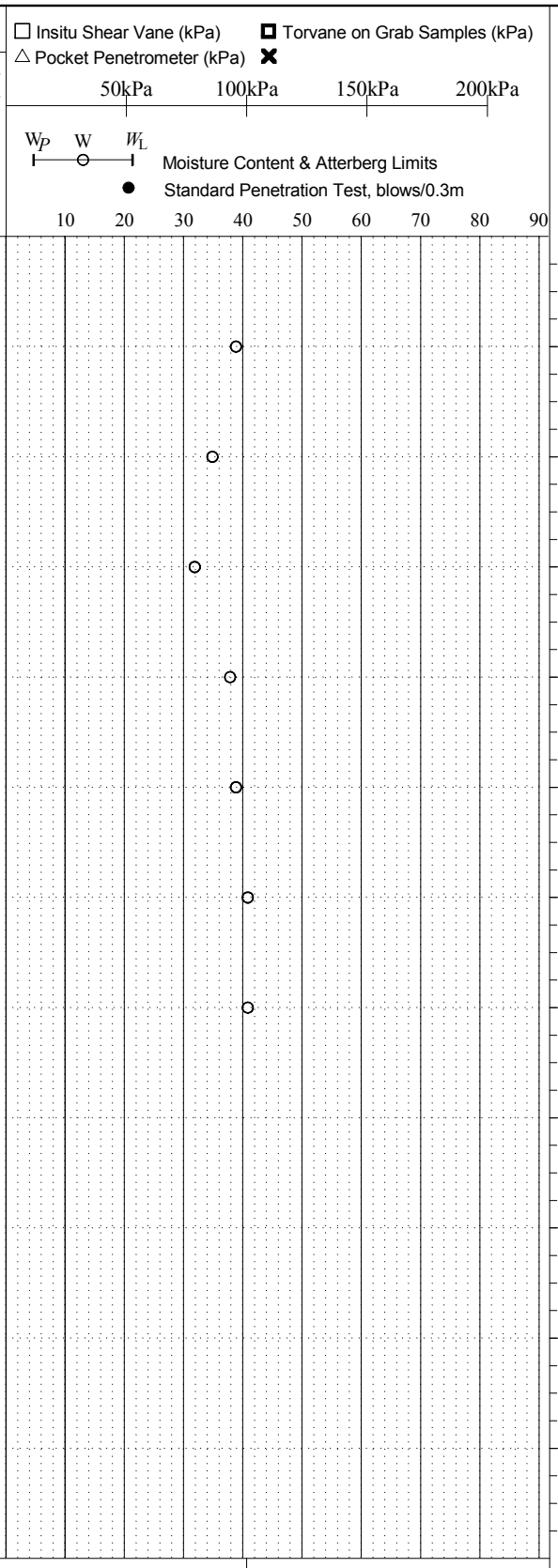
Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

TESTHOLE RECORD TH10

CLIENT City of Winnipeg PROJECT No. 123311671
PROJECT 2015 Regional Street Renewal Program DATUM
LOCATION Willson Place between Waverley Street and Fennel Street ELEVATION
DRILLING DATE December 10, 2014 DRILLING CO. Maple Leaf Drilling Ltd. DRILLING METHOD 125 mm SSA

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	WELL DATA	SAMPLES TYPE	SAMPLES NUMBER	MOISTURE CONTENT (%)
0	CO		Concrete		CORE		
	CH		Clay Fill - black, stiff, moist, high plasticity - trace organic material - silty - trace fine to coarse sand - trace fine gravel		AS		39
					AS		35
1					AS		32
	CH		Clay - brown, stiff, moist, high plasticity - trace silt - trace fine to coarse sand		AS		38
					AS		39
2					AS		41
			TESTHOLE LOCATION: 457.0 m East of Northeast corner of Waverley Street and Willson Place, approximately 1.5 m North of South curb. • The soil was frozen to a depth of 1.2 m. • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.		AS		41
3							



DEPTH (ft): 0, 2, 4, 6, 8, 10, 12

Sample Type: GS - Grab Sample SPT - Standard Penetration Test
ST - Shelby Tube PT - Piston Tube VT - Shear Vane Test
Piezometer Backfill Type: Bentonite Drill Cuttings Sand

Logged by: Nestor Abarca
Reviewed by: German Leal

Stantec

Core sample from Testhole TH1

Core sample from Testhole TH2

Core sample from Testhole TH3

Core sample from Testhole TH4

Core sample from Testhole TH5

Core sample from Testhole TH6

Core sample from Testhole TH7

Core sample from Testhole TH8

Core sample from Testhole TH9

Core sample from Testhole TH10

LABORATORY
199 Henlow Bay
Winnipeg MB R3Y 1G4
Tel: (204) 488-6999

PARTICLE SIZE ANALYSIS
ASTM D422

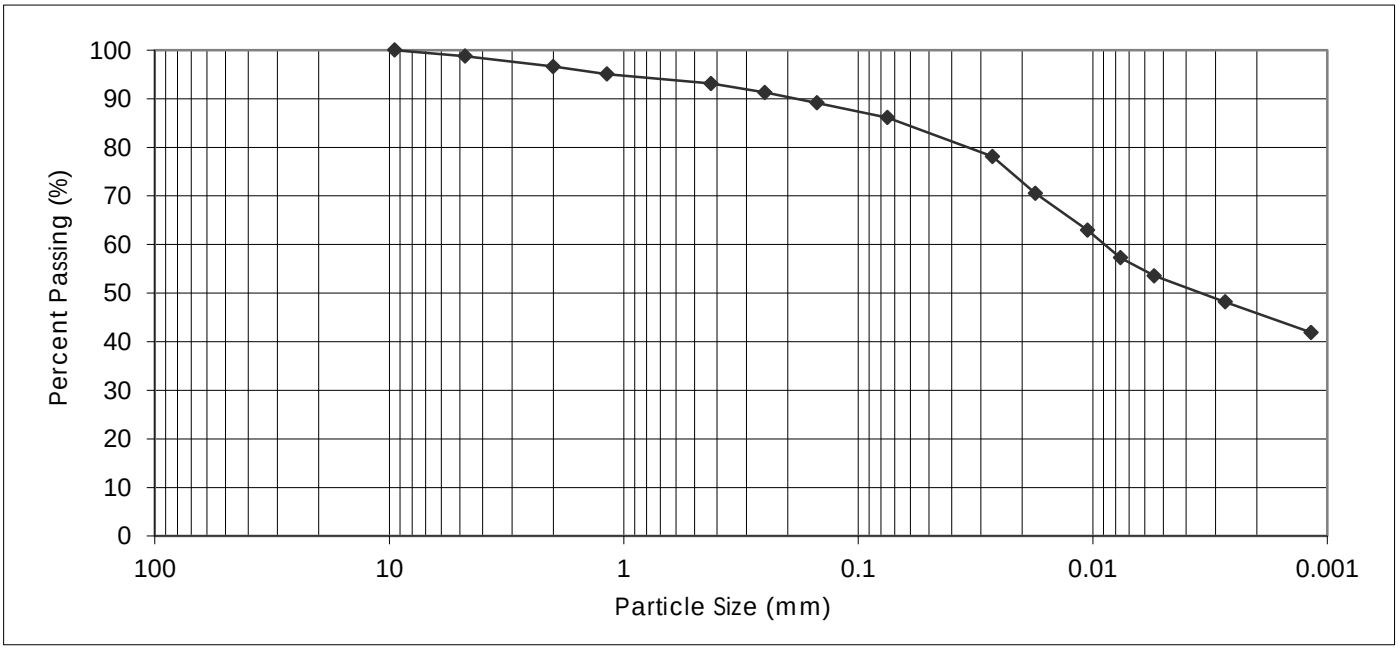
City of Winnipeg
Engineering Division, Public Works Department
106-1155 Pacific Avenue
Winnipeg, Manitoba
R3E 3P1
Attention: Derek Teperto

PROJECT: 2015 Regional Street Renewal Program
Willson Place between Waverley Street and Fennel Street

PROJECT NO.: 123311671

SAMPLED BY: Nestor Abarca
SAMPLE ID: TH03 @ 0.91 m

DATE RECEIVED: January 2, 2015
TESTED BY: Sothea Bun, C.E.T.



PARTICLE SIZE	PERCENT PASSING
37.50 mm	100.0
25.00 mm	100.0
19.00 mm	100.0
16.00 mm	100.0
12.50 mm	100.0
9.50 mm	100.0
4.75 mm	98.8
2.00 mm	96.6

PARTICLE SIZE	PERCENT PASSING
1.18 mm	95.1
0.425 mm	93.1
0.250 mm	91.3
0.150 mm	89.1
0.075 mm	86.1
0.005 mm	52.6
0.002 mm	45.2
0.001 mm	NT*

Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % < 0.001 mm
	Coarse <4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
1.2	2.2	3.5	7.0	33.5	52.6	NT*

NT* Sample not tested for colloids

January 7, 2015

REVIEWED BY: German E. Leal, B.Sc., P. Eng.

LABORATORY
199 Henlow Bay
Winnipeg MB R3Y 1G4
Tel: (204) 488-6999

PARTICLE SIZE ANALYSIS
ASTM D422

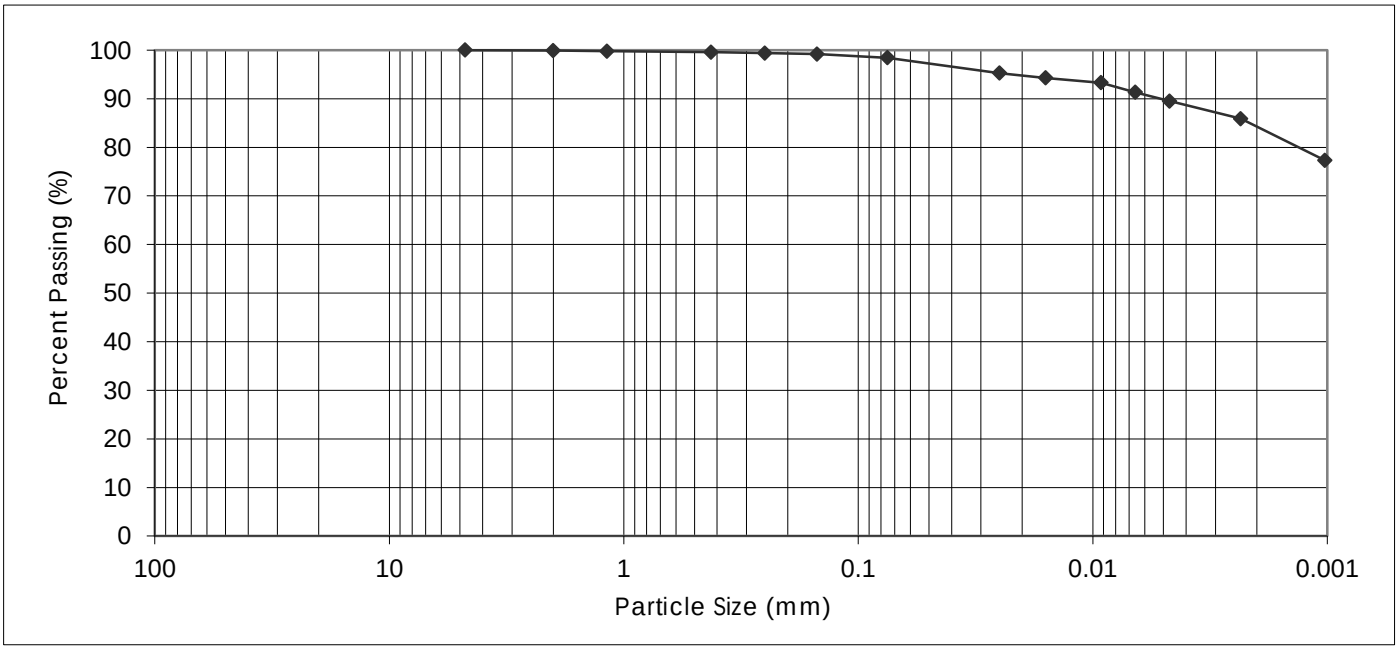
City of Winnipeg
Engineering Division, Public Works Department
106-1155 Pacific Avenue
Winnipeg, Manitoba
R3E 3P1
Attention: Derek Teperto

PROJECT: 2015 Regional Street Renewal Program
Willson Place between Waverley Street and Fennel Street

PROJECT NO.: 123311671

SAMPLED BY: Nestor Abarca
SAMPLE ID: TH08 @ 0.91 m

DATE RECEIVED: January 2, 2015
TESTED BY: Sothea Bun, C.E.T.



PARTICLE SIZE	PERCENT PASSING
37.50 mm	100.0
25.00 mm	100.0
19.00 mm	100.0
16.00 mm	100.0
12.50 mm	100.0
9.50 mm	100.0
4.75 mm	100.0
2.00 mm	99.9

PARTICLE SIZE	PERCENT PASSING
1.18 mm	99.8
0.425 mm	99.6
0.250 mm	99.4
0.150 mm	99.2
0.075 mm	98.4
0.005 mm	89.8
0.002 mm	83.7
0.001 mm	NT*

Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % <0.005 mm	Colloids, % < 0.001 mm
	Coarse <4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
0.0	0.1	0.3	1.2	8.6	89.8	NT*

NT* Sample not tested for colloids

January 7, 2015

REVIEWED BY: German E. Leal, B.Sc., P. Eng.

GEOTECHNICAL REPORT FOR:

I. Willson Place from Waverley Street to Fennell Street.

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 commences.